

taaacacgaa gcggaaaaaa gatttgaaca tcttcaaate ttatatggtg gagaattgta 60  
ctatacaagt gatatgtag aaaaactgaa gttaaagcaa attccaactt taaacaatac 120  
gaaatttgct ttaattgaat tttctatgca aacttcttgg aaagatattc atacagcttt 180  
gtcaaagtgt ttaatgcttg gtattacacc agtcgttgcg catatagaga ggtataacgc 240  
tttagagaat caaaaagaac ggggtgaagga aattattaat atgggggtgtt acacacaaat 300  
aaatagttcc catattttga aacaaaaact ttttaatgat aagcataaac gctttaagaa 360  
aagagcccggt tatTTTTtag aggaaaattt agtgcatttt gtagcgagtg atatgcataa 420  
ccttgatgtt agaccgccat ttttagcaga agcttataag attatctgta gagatttcgg 480  
taaagaacgt gctaaccaac tttttattga 510

<210> 608  
<211> 534  
<212> DNA  
<213> Streptococcus agalactiae

<400> 608  
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ttacgccaca atatacttct tcaacaagga tatatgtcat taaccctaata acccctaata 120  
atagtattac tgcacaagat ctacaagcgg ggagttttct tgcaaatgac tataaggaga 180  
ttattacgtc tactgacgtt ctagaaaaag ttatttcttc tgaaaaattg aattatcctt 240  
cgtctcagtt gctacaaaaa ataacagttt ctatttttaa agatacacgt gttatttcaa 300  
tatcggtcga agatgctaata ccaaaaatgt ctcaaaaatt agcaaattca gttagagaag 360  
cagcagtttc aaaaatcaag gcagttactc aagtagaaga tatcactact cttgagaagg 420  
gaaatttacc taaagcacca tcttctccta atattaaaaa gaatgtacta atcgggttta 480  
ttggttggtgc aggattatcg actattgttt tagttattat gggatatttg gatg 534

<210> 609  
<211> 585  
<212> DNA  
<213> Streptococcus agalactiae

<400> 609  
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gaaggggaag gaaaatccac tacttcaaca agtttagctt tatcttttagc tcaagcagga 120  
tttaaaacat tattaattga tgcggatact aggaactctg ttatgtctgg aacctttaa 180

gcaactggaa ctattaaagg cttgacgaat tatttatcag gtaatgcaga tcttggagat 240  
 attatctgtg aaaccaatgt tcctagactg atggtcgttc cttcagggaa agtaccacca 300  
 aatccaacag cattacttca gaacgcttat tttaataaga tgattgaagc tattaaaaat 360  
 atatttgatt atattatcat cgatactcca cctattgggt tagttgttga tgccgcaata 420  
 atcgctagtg cttgtgatgg ctttgtttta gtaacccaag caggtagaat aaaacgtaat 480  
 tatgttgaaa aagcaaaaga acagatggaa caaagtgggt caaagttctt aggtattatt 540  
 cttaataaag ttaatgaatc tgttgctact tacggcgatt atgga 585

<210> 610  
 <211> 527  
 <212> DNA  
 <213> Streptococcus agalactiae

<400> 610  
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 ttttcatatc aagttcatta ttttttattt ttaaaaaactc ttttacaacg acacgacttt 120  
 cctttttttac ttttattgct atgaattcga ttttattata tctattgaat tcatttttaa 180  
 aatattatcg aaaatattct tacgctaagt tttcacgaga taccaaagtt gttttgataa 240  
 cgaataagga ttctttatca aaaatgacct ttaggaacaa atacgaccat aattatatcg 300  
 ctgtctgtat cttggactcc tctgaaaagg attgttatga tttgaaacat aactcgtaa 360  
 ggataataaa caaagatgct cttacttcag agttaacctg cttaactggt gatcaagctt 420  
 ttattaacat acccattgaa ttatttggtt aataccaaat acaagatatt attattgaca 480  
 ttgaagcaat gggagtgtt gtcaatgtta atgtagaggc acttagc 527

<210> 611  
 <211> 360  
 <212> DNA  
 <213> Streptococcus agalactiae

<400> 611  
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 cacacatggc ggcccagcga cgtttatgtc agttatttct ttagggaaat taccagttgt 180  
 tgttcccagg agaaagcagt ttggtgaaca tatcaatgat catcaaatac aattttttaa 240  
 ttcgattgcc cacctgtatc ccttggcttg gattgaagat gtagatggac ttgcggaagc 300

gttgaaaagg aatatagcta cagaaaaata tcagggaat aatgatatgt tttgtcataa 360

<210> 612  
<211> 384  
<212> DNA  
<213> Streptococcus agalactiae

<400> 612  
tgaggtttga tgagaactta aaaattggtg aggatttact ttttaattgc aaactcttat 60  
gtcaagagca ccgtatagtc gtagatacga cttcttcctt atatacttat cgaattgtaa 120  
aaacttctgt aatgaatcag aaattcaacg aaaactcatt agattttata acaattttta 180  
atgaaataag tagtttggtt cctgccagat tagctaatta tgttgaagcg aaatttttaa 240  
gagaaaagat aaagtgtctc cgaaaaatgt ttgaattagg tagtaatatt gacaataaaa 300  
tcaaagtaca acgagagatt tttttcaaag acattaaatc ataccggtc tataaagcgg 360  
tcaaatactt atcattaaag ggat 384

<210> 613  
<211> 514  
<212> DNA  
<213> Streptococcus agalactiae

<400> 613  
gggttggtcag aagctagaaa ctatggaatt tatcattcaa agggaaaata cttactttt 60  
gttgattcag atgataaagt ttctctgat tacatagcga atttgtataa tgctattcaa 120  
aaacatgatt cgtctatagc tatcgggtggc tatttagaat tttatgaaag acataatagc 180  
ataagaaatt atgaatattt agacaaagtg atatcagttg aagaagcact actaaacatg 240  
tatgacatta aaacttatgg ttcaattttt attactgcat ggggaaaatt attccataaa 300  
tctatattca atgattttaga atttgcatta aataagtatc atgaggatga gttctttaac 360  
tataaagcat acttaaaagc taattctata acatacatag acaagcctct ctatcattat 420  
cgtatacgag taggtagtat catgaataat agtgataatg ttataattgc tagaaagaaa 480  
cttgatgttt tatcagcatt agacgagcga ataa 514

<210> 614  
<211> 524  
<212> DNA  
<213> Streptococcus agalactiae

<400> 614  
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ttccgtatgg tttttcaaaa tattgtctct caattgaggt taattcttta gtgggggttac 120  
ctcatgacat aaggagtaag aaatataaag aactaccgag aaaaaaatta tttgatagtc 180  
ttaacaaaga acaaaaatca ctgattttca aaatatTTaa aacaaaacca ttaactataa 240  
ctccaaagtc agtattattg ttgacacagc cacttgcaca agataaatgt tataaaacac 300  
ctacagagag gtttcaaagt attcaagagc aatacgatta ttttgacgat attgtccagg 360  
aatatagaac gttagggtac aatgtttatt taaaagttca tcctagagat gtagtagatt 420  
attccaaatt gccggtagag ctattacat caaatgttcc tatggaaatt atagagttga 480  
tgtcaacagg tcggttcgaa tgtgggataa cacattcgtc cact 524

<210> 615  
<211> 613  
<212> DNA  
<213> Streptococcus agalactiae

<400> 615  
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ggttatctca acagaagttt atggccaata tagtttatat gtcgcttgga tgaatattat 120  
tatgcttttt attggccttc agacgagcgg ttctttaagt tcagcccggg tcaaatacgg 180  
agaagaattt aaaagctatt caggagtgct cttttctgta ggtaatatat ggtttcttat 240  
tatacttttg atagcttttc tatttagaag ttttcttgca ccattagttg gtttttctga 300  
atctatTTTT ttattaatgg tgtgtcaaag ttacgctagc tatgtgggtga ctttctttgg 360  
tcagtatTTT atacaacaac agaggagttt ggctaattta atattatcct tagccaatgc 420  
agtttcatct gttgcactat ctctatTTTT aatttttcat tgggtccgatg actttttatc 480  
tagggTTTTT ggagcttttg ttctactat aataactgga atagttgcct ttgcttatat 540  
ttattatcat agcaaactct tttacaatcc taagtatTTT cggttcattg tcactgtgtc 600  
tgttcccttg att 613

<210> 616  
<211> 451  
<212> DNA  
<213> Streptococcus agalactiae

<400> 616  
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ttgtccatt tttgaaagggt ttgctttgtc gtgtcggata tagacaatat caataacatc 120



atccacgtca agagggattg cgacaatttc gtcaccgttc aattttgagt tgaggatacc 180  
 agttgccact gtataaccat ctaatccaat cattaaatta aacagagttg ctctatcact 240  
 gacaacaatg gattttgggt gaggaatttg agacatcatt tcctcagaaa agtagaaaga 300  
 attatgcagg ccttgatcat aactcagata aggataatct tctaaatctt tcataacttaa 360  
 tttttttcta ttagctaagg gattggattt gctcacgaaa atatgaggtg tagtagtaaa 420  
 aagagttgtg gcaattaagg aattatcgtc g 451

<210> 617  
 <211> 361  
 <212> DNA  
 <213> Streptococcus agalactiae

<400> 617  
 aaagttcgta ttgggtcatg tctgtgccat taaagagagc tacaaaagcg ttaaccacaa 60  
 atgcatagtg ttgtgaagaa acgctgaaca gctcacgact tgtattatca cccttataac 120  
 gctcttcaag aagtgctggt tgttctagaa tttgtcgcgc atatgacaga aattccatac 180  
 catcttttgt taacggttatt ccttttggat ttcgaataaa aatttggata cccatctcag 240  
 tctcaagggt cctaacagcg tttgaaagtg aagggtgggt aatgtagagt tgttttagcgg 300  
 cttcattcat gctaccagtt tctacaatct taataacata ttgtaattgt tgaattctca 360  
 t 361

<210> 618  
 <211> 383  
 <212> DNA  
 <213> Streptococcus agalactiae

<400> 618  
 cgtttcctta gggactggtt tatctgcggc gatgatttta cctatttttag cctttattca 60  
 tactagttca gcttttacga ctcttagcac aattgtaggg acttttattg gttttatttc 120  
 aggagtatat ctctcaattg gctcggtagg aaaagcatta caacagggtta tgacatgggt 180  
 tccattgact caaatcaatt ctcttttgaa acaggtctta atgaagggtt ctattgcgaa 240  
 ggtatttgac aaagccaacg aagccactgt ctctaactat aaagaatcat atgggtgttgt 300  
 tttgcgtaat gctgatggag aaaggctgag taatcacttt atgttgattt atatcattgc 360  
 cctcattctt attttattgg caa 383

<210> 619  
<211> 535  
<212> DNA  
<213> Streptococcus agalactiae

<400> 619  
ttacctatgg ttgttttagat tggaatagta gcttttagtgg ttttctttta attgattcga 60  
aaagtcgtag tggacaggca atcacttata tatataaaac tatcttaaag aagataacaa 120  
aactgaagtt ttctaataatc tataccgaaa tcagtaacta caataaaccc tccttagctt 180  
tatcaaaatt gaatggcttc aaagagtatg ataagacata tgaagacata ctgcattgtc 240  
gatcattgag tagtcacctc cctaagatat tgaatacgtt tcgtatttcg aattattatg 300  
gtaaaacata cgacatatca actttttcaaa ttatggagga aattgaaaat cccttggaag 360  
aggagacaga aattaggacc aaagtctctg atgaagaaat attattttaa gcagaagata 420  
gtgcttcact tccttattat ttaaaaatga gcttggttca aatggaaatt gctaagttag 480  
ataaccgtta tgtttttacaa gttgactttt tatcggaaac agtaaagagg gttcag 535

<210> 620  
<211> 519  
<212> DNA  
<213> Streptococcus agalactiae

<400> 620  
ctggtgaaga atgtgaagaa gccttagacc ttgtgattcc taagaatatt gtatttgcag 60  
atacagatac ttgtggctac actttttttac tcaatgaaga tggaacagtt tatgatgatg 120  
tgactttcta caaatttgat gataaatatt gggtggctag tcataaagct ttggattctt 180  
atttagacaa catcaatttt gactataccg taacagatat ttctgacgag tataaaatgc 240  
tgcaaattga aggaagatat tcgggagaaa ttgctcagtc attttatgaa tatgatattt 300  
caacacttaa ttttcgtact ttgatagaga tgacttataa aggtgagaaa gggtatcttg 360  
ctagatttgg tttttctgga gaatttggct atcaattttt cctaccatct tctatttttg 420  
ctacttttgt ttcggatgtc tgtgaaggta tagcagagtg tggggatgaa cttgatagat 480  
atttaagggt tgaagtggga caaccatta ctgatattt 519

<210> 621  
<211> 573  
<212> DNA  
<213> Streptococcus agalactiae

<400> 621

cgagcataaa cagcatctct tcgacttaaa agaaggaatt tctaaacatt tatataaaaa 60  
tcacgactct attttagaat cttatacagg aagcataact agtgacccag aggttcctga 120  
gcaatacaaa gatgagacac gtaattttaa atttgctttt accgcttttg aagaggctct 180  
tgcttcttca ggtgttaatt taaaagctta tcataatatt gctgtgtgtt tagggacctc 240  
acttggggga aagagtgtg gtcaaaatgc cttgtatcaa tttgaagaag gagagcgtca 300  
agtagatgct agtttattag aaaaagcatc tgtttaccat attgctgatg aattgatggc 360  
ttatcatgat attgtgggag cttcgtatgt tatttcaacc gcctgttctg caagtaataa 420  
tgccgtaata ttaggaacac aattacttca agatggcgat tgtgatttag ctatttgtgg 480  
tggtgtgat gagttaagt atatttcttt agcaggcttc acatcactag gagctattaa 540  
tacagaaatg gcatgtcagc cctattcttc tgg 573

<210> 622  
<211> 610  
<212> DNA  
<213> Streptococcus agalactiae

<400> 622  
tcttatcatc tgctgcttcc atttctaaga atgaatcact ttctataacc tatgaaaaag 60  
ttgctagtaa tttcaacgac tttgaagcat tacgctttta aggggctaga ccacccaaaa 120  
ctgtcaaccc agcacaattt aggaaaatgg atgatttttc caaaatgggt gccgtaacaa 180  
cagctcaagc actaatagaa agcaatatta atctaaaaaa acaagatact tcaaaagtag 240  
gaattgtatt tacaacactt tctggaccag ttgaggttgt tgaaggattt gaaaagcaaa 300  
tcacaacaga aggatatgca catgtttctg cttcacgatt cccgtttaca gtaatgaatg 360  
cagcagctgg tatgctttct atcattttta aaataacagg tcctttatct gtcatttcga 420  
caaatagtgg agcgcttgat ggtatacaat atgccaagga aatgatgcgt aacgataatc 480  
tagactatgt gattcttggt tctgctaatc agtggacaga catgagtttt atgtgggtggc 540  
aacaattaaa ctatgatagt caaatgtttg tcggttctga ttattgttca gcacaagtcc 600  
tctctcgtca 610

<210> 623  
<211> 606  
<212> DNA  
<213> Streptococcus agalactiae

<400> 623

agcgatatga tgctttcttt tctctttcaa cagacttttaa ttttttatca gaagaagaaa 60  
ttgaacgcac ctgttctatt gaaagagact tggtacgcca agaaaaattt gatgctgtat 120  
tgacagggtta ccgtctatct attgttacaa gttgtcgttt agaaagcata ccattaattt 180  
ggattatttc aggggcaacg catatcagtg aaattgttga aaactcagaa ggaatattgc 240  
ctaattggga gataagtaaa gctagtaagc ctcaaacaaa ggattttatc aaaagagtaa 300  
tcactactta ttcaacaaat gttaaaacgt ggaataacta tattaaaaaa tatggtggca 360  
aaccttttaa taatgcttta gaattattta ctggtgatct aaacttggtt acagattact 420  
ctttgtttta tgaatttgat aaagattcgt cctataaaac gataggacct attttgatag 480  
ataatgtagg tttttcaaaa tgcagccaaa ttaatcaaga caataagact gtactgctca 540  
gctttggtac ttcattttaa cgagattggg tggaatcttt tttaaagaca ttaccaaggc 600  
attatc 606

<210> 624  
<211> 511  
<212> DNA  
<213> Streptococcus agalactiae

<400> 624  
aaaaataggc agtctacatt ggagaataat ttatctggcg atcggttgat gagatatcaa 60  
caagcaaata gacaggtaag caaagataaa ctgttaacag ggagttattt tgtgtaccaa 120  
tgcttaaaaa agttagggtt taccaataag atttgtcagg aatctttttc tagtgtagt 180  
agttatttaa ttggtttgcc aaaggggaaa attagttact ctaattctgg tgactatcat 240  
attctaacct atgctcccag tggttcaact ggggttgata ttgagaaata caaagataga 300  
tcagaacaaa cctaccaaaa ctacctagga gaatcagtta gtagtgatat ggattctaaa 360  
ttattatttt ataaggcatg gttacaaaaa gaaatttcct ataaatgtgg gaaatctata 420  
gatattacct atcaaacaat gatagatggc tatatttatg gttatgcttt tgataatact 480  
tttaaagtag aagcggttta cttaaagaa t 511

<210> 625  
<211> 231  
<212> DNA  
<213> Streptococcus agalactiae

<400> 625  
agtaatggcc aattgttgcg gaataaccta attcttcaat taactcacga gttaaagctt 60



ctaggtgatt ttcattttct tcaatttccc cacctggaag aaaccaagca ccattaggtg 120  
cctgtactaa aataatttta tcatgagttg gattttggaat aatagcatag acaccaaatac 180  
gtgacctata gtttacatta tctatttttt caccgaaagt aggattagtc a 231

<210> 626  
<211> 240  
<212> DNA  
<213> Streptococcus agalactiae

<400> 626  
aatccctttg gcttgagaag gagttgcagt ttgggtgcga ttattatttc gtccattacc 60  
gtttcctcca cctcggtttc ctctgattg tgtaggagga gtgtttggtg aatcttgccc 120  
attaaaggct ctgaaattat ttaaattctc aaagaaatca tcaaagaaag gattgatgcc 180  
accaggcgca tgtgaaacat gatttaaacc tgaaaaaagt ggattattag ggtcagtttt 240

<210> 627  
<211> 400  
<212> DNA  
<213> Streptococcus agalactiae

<400> 627  
ctattataaa gaacgagggc aaacactttt agacgttttg caaaccattt acgataaatt 60  
tggctattac aacgagcgcc aattttctct tgagttagag ggtgctgagg ggcaagaacg 120  
tattagtcgt attatggagg atttttagaca ggaccaata ttacaagtag gtgagatgac 180  
attggagaat tctattgatt tcaaggatgg ttataaggat tttccaaagc aaaattgttt 240  
aaaatattat tttaatgagg gttcatggta tgctttaagg ccgtcaggga cggaacctaa 300  
gataaaatgt tacctttata cgattggttg tacagaagca gatagtttat cgaaacttaa 360  
tgcaattgag tcggcttgtc gtgctaaaat gaatagtact 400

<210> 628  
<211> 628  
<212> DNA  
<213> Streptococcus agalactiae

<400> 628  
ccctaaatca agccataaag gtgattatgg tagtgttctt ctgataggag gtttttatcc 60  
ctatggaggt gctattataa tggcagcttt ggctgtgtc aaaactgggtg caggattagt 120  
tactgtagca acccaaagtt gcaatatccc ctctttgcat agtcaactac cagaggtaat 180  
ggcgtttgat agtgatgatt acaaattggtt ggaaaaatca attgttcaaa gtgatgttat 240

tgtaattggt cctggattag gagtatcaga atcatctcga aaaattttga accagaccat 300  
ggagaagatt caatcacatc aaagtgtcat ccttgacgga tcagccttga ctctgttatac 360  
agaagggtgcg tttccgcaaa caaaggctaa aaatttagtg ttgacacctc atcaaaaaga 420  
atgggagcga ttgtcaggta tcgctgtatc gcaacagaca aaagaaaata cccaaaccgc 480  
tcttaaattct tttcccaaag ggacgatttt agtcgctaag agttcgcata cgcgtatttt 540  
tcaagattta gacgaaaaag aaattatagt aggaggctct taccaggcga ctggagggat 600  
gggggatact ttgtgtggta tgattgca 628

<210> 629  
<211> 388  
<212> DNA  
<213> Streptococcus agalactiae

<400> 629  
agttttatct attgacgatt taagcttgat tcatattaat aaaacgggac gcctgttagc 60  
ttatcccttt gttgcagcag gtatttttagc tgagaagtcg gaagaagtaa aaggaaaact 120  
gcatcaagct ggccttttta tcggtcatgc ttttcaagta cgtgatgata ttttagatgt 180  
gactgctagt tttgaagaat tggggaagac accaaataaa gacattgtag cagaaaagac 240  
aacttatcca aatttattgg gtttggataa gtcacaggaa atacttgatg atactttgaa 300  
aaaagctcag gcaatttttc aaaatctaga gaaaaaagct aactttaatg ctagaaaaat 360  
aatagatata atagagggat tacggttg 388

<210> 630  
<211> 410  
<212> DNA  
<213> Streptococcus agalactiae

<400> 630  
tgttcttaac catgctgttg aaacacaaca tgagttgtta cgcagattgg aagcttatgg 60  
ggtaactcta actcaagcaa ctatttcacg tgatatgaat gaaattggca ttataaaagt 120  
gccatcagca aaaggtcgct atatttacgg tttgtcaaata gaaaacgacc ctatctttac 180  
aactgctgtg gcaaagccta ttaaaacaag tatttttatca atatcagata agctactagg 240  
tttagagcaa tttatcaata ttaatgtcat accaggtaac agtcaattaa ttaaaacctt 300  
cataatgtca cattgtcaag aacatatttt tagtttgaca gctgacgata atagtctcct 360  
tttgattgca aatcagaag cagatgctga tcacattcgt caatcaatga 410

<210> 631  
<211> 240  
<212> DNA  
<213> Streptococcus agalactiae

<400> 631  
taatgaatga aggtgtggaa catatcattg caattcattt aacgcataca ctatcaggaa 60  
ctattgaagc atcacgccag ggagctaata ttgctggtgc agatgttaca gttattgatt 120  
ctactttttac agaccagtgt caaaaattcc aggttgtaga agctgcgaaa ttagctaaag 180  
agggagctga tttagatacc atcttggctc gtgtggaaga agtacgccag aagtcagaat 240

<210> 632  
<211> 240  
<212> DNA  
<213> Streptococcus agalactiae

<400> 632  
aatgggcatt tctcttattg ttggcaatta acctttcctt cacagcagtg attgcaagtc 60  
gcttaattca agtacgtgag cctaatacag gaaaaatttc gactggggta caagataaag 120  
taaaagtagg tactttttacg accaataagt cgcaactgaa taagacaatt gcactttatt 180  
taaaacaata tcaaactaag aagatgaatt ataagattta tgctgcttca tctttctatac 240

<210> 633  
<211> 200  
<212> DNA  
<213> Streptococcus agalactiae

<400> 633  
tcgaaacctt tctgaggtaa caaaggaggc tgatatcctt attgttgcca ttggtcaggg 60  
gcactttggt acaaaagact tcgttaaaga aggtgctgtg gtgattgatg ttggatatgaa 120  
tcgcgatgaa aatggtaaatt tgattggaga cgttgtatth gaacaagtgg cagaagttgc 180  
tagtatgata acacctgttc 200

<210> 634  
<211> 545  
<212> DNA  
<213> Streptococcus agalactiae

<400> 634  
tgaatctgga atgtttgata agaaagatat ttttgttagt acagattcag aattgtacag 60  
agagatttgt ttagaacgcg gtattttcagt ggtgatgaga aaaccggaac tttcaactga 120

tcaggcaact tcgtatgata tgttaaaaga ttttttatct gactatgaag ataatcagga 180  
 gtttgtgtta cttcaagtaa cttctccact aagaaaatca tggcatataa aggaagcaat 240  
 ggagtattat tcttcacatg atgttgacaa tgttgtaagt ttttctgaag ttgagaaaca 300  
 ccctagtctg tttacgacat tgtctgataa aggctatgct atagatatgg tgggagcaga 360  
 taaaggttat cgtcgccaag atttacaacc tttatactat ccgaacggcg ctatTTTTat 420  
 ttctaataaa gaaacttact taagggaaaa aagctttttc acctctagga catatgctta 480  
 tcaaatggca aaggaatttt cattagatgt tgatacgaga gatgatttta tccacgtcat 540  
 cggtc 545

<210> 635  
 <211> 557  
 <212> DNA  
 <213> Streptococcus agalactiae

<400> 635  
 ttattctttc gacgggtatg gcggtaatgg aagagatcca tcaagcggtg aatattttac 60  
 gtcagaatgg tacaaccgac atttctatTT tacattgtac aacagagtac ccaacacctt 120  
 acccctctct aaattttaaac gttattcata ctttgaaaga tgaattttaa gatttaacga 180  
 taggttattc ggatcattca attggatcag aagtacctat cgcagcagca gcaatagggtg 240  
 cagaagttat tgaaaaacac tttacttttag atactaatat ggaagggtccg gatcataaag 300  
 ccagtgcac acctgatatt ttagctgctt tagttaaagg ggttcgcatt gttgaacaag 360  
 ccttaggtag atttgaaaaa atcccagatc cagtagaaga aaaaaataag attggtgctc 420  
 gttaatcagt agttgcttta aaaccaatta aaaaaggcga tatttattca atagaaaata 480  
 ttacggtgaa gcgcccaggt aatggtatTT ctccatgaa ctgggtatgat atcttgggac 540  
 aagaagcgca agatgat 557

<210> 636  
 <211> 532  
 <212> DNA  
 <213> Streptococcus agalactiae

<400> 636  
 gctgaatacg gaataatgaa gccattgatt caaagattat caaaagataa agaagtcaac 60  
 ttacaaatta ttgcaacagc aatgcactct gaagaaaagt acggctatac ttatcgtaa 120  
 attgaagaag acggttttga tattgcttat aaagttccct tacatcttta tgatactgac 180



agaagaactg tatctactgc aatggcgcat ttacaactag gattgaccaa aatttttgac 240  
aaggaagact atgatctagt catcatttta ggggatcggt atgaaatggt accagttgtg 300  
aatgtagcgt tgatttataa tgtcccagta tgccaccttc atggagggga gacatcatta 360  
ggcaattttg atgagtatat tcgccatgca attactaaga tgagtcacct acacttagtc 420  
tctacagagg attttcgtca acgtgtgatt cagatgggag aacaacctca atttgtaatt 480  
aacacaggag ctctcggagt ggaaaatgct ctatcaattc ctctctaac ca 532

<210> 637  
<211> 507  
<212> DNA  
<213> Streptococcus agalactiae

<400> 637  
agtcattgctg atgcgattgc tccggttatt gatcctcttg tgtatgattt cgtaggtttt 60  
tttgatgata aagatattac ggagcatgat gggtatcctg ttcttggaac actttatgat 120  
gtgctacctt acctgaaga tggctcaata gatgcagtat ttattacaat aggtgataat 180  
gctaaaagga aagaactatt tgaatatgta gcaaaggatt attatgactt tattattaac 240  
atcatttagtc ccaatgcttt agtattgaca ccagatagta tttgtggacg tggatctttt 300  
attggttttg gggcttttat aggttctaaa gtgaagctgt ttgataacaa tgttgtaaat 360  
acaggagcgc tcattgaaca tcatactgtt gtagaatcac actgtaatat agcacctaac 420  
gctaccataa atgggtctttg ttatattaga gaagaagttt atgtaggtag tgccagtgtt 480  
attattcaaa ccttgatat ttcattcg 507

<210> 638  
<211> 510  
<212> DNA  
<213> Streptococcus agalactiae

<400> 638  
gcattgaccaa gaggaactaa tgaaacctaa catgcacatt ctgatgtag atgaatttgg 60  
taatacagaa tttaatgtca taaaagaacg ttatcaaagt ctttttgatg cttatcgtca 120  
gcttcgtaaa cgcgtattgg ataagcaaaa aaatgaacaa gagaataaat cacgtattga 180  
aatgctagaa tttcaaatac cagaaattga gtctgtagcc cttaaatacag atgaagacca 240  
aacgctactc aagcaacgtg ataaattaat gaatcataag aatattgcag atactttgac 300  
aaatgcatat cttatgtag ataacgaaga gttttcaagt ttatcgaatg ttcgttctgc 360

aatgaatgac cttatggctt tagaagaatt tgatcgagaa tataaagatc tttccaccaa 420  
 tctttcagaa gcttactacg ttattgaaga agttactaaa cgtttaggtg acgttatcga 480  
 tgatttagat tttgacgctg gtttactaca 510

<210> 639  
 <211> 627  
 <212> DNA  
 <213> Streptococcus agalactiae

<400> 639  
 aataccttga aatgtgtcgt gattatgctc tcagccaagt tgacaaacaa cgtgatgatt 60  
 tttaacgtct gggcgtttct gccgattggg aaaatcctta tattacacta acaccagatt 120  
 atgaagcaga tcaagtacgt gttttcgggtg ctatggcaga taaaggatat atctatcgtg 180  
 gtgctaaacc agtgtattgg tcatggtcac cagagtctgc ccttgctgag gctgaaatcg 240  
 aatatcatga tattgattcg acatcactct actatgccaa taaagttaaa gatggtaagg 300  
 gaattcttga tacagatacc tatatcgctc tttggacgac aacaccattt actgtaacag 360  
 cttcacgcgg tttaacagta ggaccagata tggagtatgt tgtagttgta ccagtaggta 420  
 gtgagcgtaa ataccttctt gcagagggtc ttgtagatag tctcgctgct aagtttggct 480  
 gggaaaactt tgaaattgtg actcatcaca ctggtaaaga acttaatcac attgttacag 540  
 aacatccatg ggatacagaa gtagaagagt tggttatcct tggagaccat gttacaacag 600  
 attctggtac aggtattgtc cacacgg 627

<210> 640  
 <211> 326  
 <212> DNA  
 <213> Streptococcus agalactiae

<400> 640  
 acatatgatg tatctatctg gaactctagt ggctggtgca ttgttatttt caccagctgt 60  
 attagaagta catgctgac aagtgacaac tccacaagtg gtaaatcatg taaatagtaa 120  
 taatcaagcc cagcaaattg ctcaaaagct tgatcaagat agcattcagt tgagaaatat 180  
 caaagataat gttcagggaa cagattatga aaaaccgggt aatgaggcta ttactagcgt 240  
 ggaaaaatta aagacttcat tgcgtgccaa ccctgagaca gtttatgatt tgaattctat 300  
 tggtagtcgt gtagaagcct taacag 326

<210> 641  
<211> 210  
<212> DNA  
<213> Streptococcus agalactiae

<400> 641  
tatacaaaat caaaacttga taaggaaatc tggaatacac gctttactag agataaaaaa 60  
gtacttaacg tcaaagaatt taaagtttac aatactttaa ataaagcaat cacacatgct 120  
gttgaggttc agttgaatcc aaatgttacg gtacaacaag ttgatcaaga gattgtaaca 180  
ttacaagcag cacttcaaac agcattaata 210

<210> 642  
<211> 230  
<212> DNA  
<213> Streptococcus agalactiae

<400> 642  
ggagcgcgtt tagtttacgc agtagatgta ggaacaaatc aattagtttg gaagttacgt 60  
caggatcatc gtgttcgttc tatggaacaa tataatttta ggtatgccca aaaagaagat 120  
ttcaaggagg gactgcctga atttgcacgc atagatgtct catttatctc tcttaatttg 180  
attttaccag ctctaaaaga aatttttagtg gatggtggac aagtagtggc 230

<210> 643  
<211> 522  
<212> DNA  
<213> Streptococcus agalactiae

<400> 643  
ctagggaatg gtctgcttgg attgataaag aaaatactgc tgataaatca cctattatcc 60  
aacgtaccga acaaggccaa gtaagtctat ccagcgacaa aggctttaga ggtgctgtaa 120  
cacaaaaagt gaacattgat ccactaaaa aatatgaggt caagtttgat attgaaacaa 180  
gtaacaaggc tggacaagct ttccttcgta ttatggagaa aaaagataac aatacgcgac 240  
tttggttttc tgagatgacc agcggtaacta ctaacaaaca taccttaaca aagatatata 300  
acccaaagtt agatgtctcc gaggtgacac ttgaacttta ttatgaaaaa ggaacagggt 360  
ctgttacttt tgataatata tcaatgaaag caaaaggccc taaagactca gagcatccac 420  
aaccgcgcac aacacaaatt gaaaaagcg ttaatacggc tttaaacaaa aattacgttt 480  
ttaataaagc tgactaccaa tacactctaa ccaatccgtc tc 522

<210> 644

<211> 586  
<212> DNA  
<213> Streptococcus agalactiae

<400> 644  
tcccacttaa ctatgttgct cttggagatt ctctgaccga aggtgtgggc gatacaacct 60  
ctcaagggtgg ttttgtttcca ctgctatcag aatcactcca taatcgatac tcttaccaag 120  
tgacttctgt taattatggt gtgtctggga atactagtca acaaatttta aaacgtatga 180  
cgacagatcc tcaaatcgaa aaagatttag agaaagctga ttatttgacg ctaactgttg 240  
gtggtaatga tgtcttggct gttattcgta aagagctcag tcatttatca ctaaattcct 300  
ttgagaaacc agcagaagca tataaggaac gtttgaaaga aatccttgca aaagcaagac 360  
aagataatcc taaattgcct atttatgttt taggcattta taatcctttt tacctaaact 420  
ttccacaatt aactaaaatg caaacggtta ttgataattg gaataaagct acaaaagaag 480  
tagttgatgc ttcagaaaat gtttattttg tccaattaa tgaccgcctt tataagggaa 540  
taaattggtaa agaggggtatt acagagtcac caaatagtca ggcaag 586

<210> 645  
<211> 511  
<212> DNA  
<213> Streptococcus pyogenes

<400> 645  
tagctcatat tgtcgcaaag acaagtgttg ctattgcttt ggctggagca atgggtagca 60  
gtttatttagc taatagcaca acgtacgctg ttagtggcaa agaaaataaa aaaagcgatg 120  
tcaaatatga aacgaccaa gttatggaag ctaacgcaac ttctctctaaa gaagacaatc 180  
atgtcatgca cacattagac ggctcaatga gtactgtctg ggaggaaaat tcacctgggtg 240  
gtggtgttgg tgagggtactt tcctacaagt ttgcgtcccc gatgcatatt gggagaattt 300  
taattgttaa tggagacaca tctagcaagg agaattacta caagaaaaat agaattgcaa 360  
aggctgatgt taaatactat aacgggaata aattggtcct ctttcaaaaa attgaattag 420  
gcgacaccta cactaaaaaa ccgcatcaca ttgagattga taaaaaatta gatgttgatc 480  
gtattgatat tgaggtaaca gaggtccatc a 511

<210> 646  
<211> 300  
<212> DNA  
<213> Streptococcus pyogenes



<400> 646  
ttaaatacgc taaagccctc ttgagggctt ttttagatac aattgacatc ttaaaatgga 60  
taccagtttc tgtgaaacaa tctttgattg tgaacaaaca aagcataatt tagagtatta 120  
aaatctggac cctgctatct atggtaagtc tttttgttat tgtaaagag gttaagcgga 180  
atgttaatat gtttttagcta aaaaatgtag tgaaaaatga gtacgtagac tattgtaata 240  
gtaattccgt aaaattgttg aaaaagaaaa tgggaaatac cttgtcaaatt taagcacctt 300

<210> 647  
<211> 579  
<212> DNA  
<213> Streptococcus pyogenes

<400> 647  
ccggttatgt taatggaaag agaaaatata ttaggcgaga aggtttcaaa actaagcagg 60  
ctgcaaggga aaccttaatt agtttacaag ctgaacttga taaacctaaa tcaagtatga 120  
catttggagc attgacagat caatggctaa aggaatatga aaaaaccgtt cagggcagta 180  
cctacttaaa aacagaaaga aatattaata aacatatattt gccaaaactt gataaagtga 240  
agattggaga catcaatcca ctacttatcc agcggcttac tgaagaatgg tgcaacgatt 300  
taaaatatgg aggaaaaatt cttgggcttg ttaggaatat cttaaattcta gctgttagat 360  
acggatatat caataacaat ccagctttgc caattacacc tccaaaaata aaaaggaaaa 420  
gaaaaatgaa taataatttt tatacacttg atcaacttaa acaattcctt gaactagttg 480  
aaaaaactga caacattgaa aaaatagcct tgtttagatt attagcattt actggaatac 540  
gaaaagggga gcttctggca ctaacttggg atgatttga 579

<210> 648  
<211> 507  
<212> DNA  
<213> Streptococcus pyogenes

<400> 648  
gctatttggc cctgtgtagc aaaaagtgc ctcatcatgt gcggagtaaa atgaacgtcg 60  
caatttttat taattttttt aaataagcag tagatgtaat ggctaccgat tggttttcct 120  
acaaaagatg gctttacttt ttcgtcgtct cctaaaaata ggaaatcagc cttatttaag 180  
atgcgatcgt tgcacacggc tattttgata gaagtatcaa tagctttttt tagcagttgt 240  
gatgtctcaa aatctaaata cacatatcgt tccgaataag ctgtcttttag gcctccgcca 300  
tcttttctac ctcttgcctt tgattcgtct atctttacga ccgcacaatc tttatcatta 360

aaagttatat tccctaattt tatgccagct acctcgcttc tacgcaatcc aagatatgtt 420  
atcctaacca ttgcgtagtc ataatcatca agcatttttc tggcaacttt atcccaagct 480  
ttaaattctt gcattgatct acgttttg 507

<210> 649  
<211> 501  
<212> DNA  
<213> Streptococcus pyogenes

<400> 649  
gctcacggtc actaataatc tctactgggc gtgcgatatg gctggcaatt tcttttgaaa 60  
tatcttctgg atcctcgaaa ttagggatcat cagcagtgag aatgacgggtg aggtttggat 120  
gctgatgaat caccctacca aaatcagctc gtctgctctc gcctttatctt cctgggtgcac 180  
ctaaaatcaa cattaatttg cctgtctgat gttcttccac aacgctgagt aatttttcta 240  
agctgtcacc attatgggca taatcaacaa aaacttttagc atgatttgctc atagtgagga 300  
cttccatacg gcctgggacg cgagtcttag cgataccttt ttgaatatca gctaggctag 360  
cacccaaacg aaggcaggca agtccagctg ccatagcatt ttcttggtta aaatggccaa 420  
ttaattgaat gtcataatgg ccagctaatt gtccttttagc ttcaaaggag aaggcttggc 480  
tagtggtgat ctggttgtca g 501

<210> 650  
<211> 632  
<212> DNA  
<213> Streptococcus pyogenes

<400> 650  
cccagttcaa ttagattacc ctggttgacca agcaaacgca gcaactgttc aggaagccca 60  
gtctttcaaa caatctgttg aagcatctct tggtaaagaa aatgtcattg tcaatgttct 120  
tgaaacagaa acatcaactc acgaagccca aggcttctat gctgagaccc cagaacaaca 180  
agactacgat atcatttcat catgggtgggg accagactac caagatccac ggacctacct 240  
tgacatcatg agtccagtag gtgggtggatc tgttatccca aaacttggaa tccaagcagg 300  
tccaaataag gatgttgttg cagctgcagg ccttgatact taccaaactc ttcttgatga 360  
agcagcagca attacagacg acaacgatgc gcgctataaa gcttacgcaa aagcacaagc 420  
ctaccttaca gataatgccg tagatatcc agttgtggca ttgggtggca ctccacgagt 480  
tactaaagcc gttccattta gcgggggctt ctcttgggca gggctctaaag gtcctctagc 540

atataaagga atgaaacttc aagacaaacc tgtcacagca aaacaatacg aaaaagcaaa 600  
agaaaaatgg atgaaagcaa aggctaagtc aa 632

<210> 651  
<211> 534  
<212> DNA  
<213> Streptococcus pyogenes

<400> 651  
ttt gatggtg ttgggtatgg ggcacgtaat tctatttttaa tctcagttat agcgacccta 60  
attaatatca ccattgggggt agtgtttagga gccatatggg gagtttctaa agcatttgat 120  
aaagttatga ttgaaattta taacattatc tcaaatatcc cttctatgct tattatcatt 180  
gttttgacct attcattagg tgcaggattt tggaatttga ttctagcttt ctgtatcact 240  
ggatggattg gtgtcgcta ctccatccgt gttcaaactc tgcgttaccg tgatttagaa 300  
tacaaccttg ctagtcaaac tttgggaaca ccaatgtaca agattgctgt taagaacctc 360  
ctgcctcaat tggtttcagt tatcatgact atgttgtcac aaatgctacc agtttatgta 420  
tcttctgaga ccttcttacc cttctttggg attggtttac caaccaccac tccaagttta 480  
ggacgtttga ttgctaatta ttcaagcaac ttaacaacaa atgcctacct cttt 534

<210> 652  
<211> 340  
<212> DNA  
<213> Streptococcus pyogenes

<400> 652  
tcgaagagat tttctatgat ccaagacacc cctatacatg gagtttgctg tctagcttac 60  
cgcagttggc agatgaatct ggtgaacttt acgctattcc aggaacgcct ccataccttt 120  
attaccaat tatcggagat gcctttgcac ttcgctcaga atatgctatg gtttttagact 180  
ttgaaaaagc acctccggcg attaacgtat ctgagactca ttgggccaaa acatggcttt 240  
tacaccaga ggctccaaaa gttcaaaaac cagaagtcac tcaagggttg catcaaaaaa 300  
tcttaaggaa aatgtcacia caggaggaag gaaatgtctg 340

<210> 653  
<211> 542  
<212> DNA  
<213> Streptococcus pyogenes

<400> 653

caccagacaa cctttctttc aagaccttat caattatctc gaccagcatg atcacgttat 60  
attacgagag atcaaaaaag cctttcctaa tgtgacaggt attgacaagg ccatcgaaag 120  
ctatgttcaa gctggctata ttcgccgtga aaataagcgt tatggcatca atcttccttt 180  
ggtgagttct gatcagcagc tggccttaga cactatgctt tttgtggaca cctgttcagc 240  
tatgtatgaa aatatttttag cggttgtttt tgagactcag ctaacaaacc aaaccaatcg 300  
cgtgatgatc aaggaaaaga ccaacatcac gagagacgat ttgaccctgg ctaattattt 360  
ttaccgtctc aaaagaggtg agaagccatc agctgagcag atggacttgt atgacctctt 420  
gggggatgtg aatcaggaat atgcccttaa atatatgaca acttttttgc ttaaattcac 480  
gcgcaaagac tttgtgatgc aaaaacgtcc tgatatattt gtggaagctc tggttacact 540  
tg 542

<210> 654  
<211> 616  
<212> DNA  
<213> Streptococcus pyogenes

<400> 654  
ttaattgcag tagcagcatc tattggtggt gtaggtattg ccttgttaac tgaaaattat 60  
gtcaaaaaag acatgaaagc agctgctcgt ttaatcatta acaacattga aatgttagtg 120  
atgtttttgt tacctgctct tactggggca attatttttag caagacctct atattctgtt 180  
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ttgctactgg cgctttacac cctcttttca ccgatgcttc aagctctttt tgaaaatcga 300  
aaagcgattt actactttgc ctatggtatc ttgattaagt tagttttaca gataccgctt 360  
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at ttattttga tgtatcgacg cctatatcag gttactcatt ttaaccgcaa actgttgcaa 480  
aaacgtttat tattaacctt aattgaaacc ttattaatgg gactggtcgt gtttgtggcc 540  
aactggctat tgggctatgc ctttaaaccg acaggccgct tgaccagcct tctttacctc 600  
ctcattattg gtggct 616

<210> 655  
<211> 208  
<212> DNA  
<213> Streptococcus pyogenes

<400> 655



agcagtaatc tttggtactg ttttgggtca tgttctatgt gtcccaattc atgcaagatt 60  
acttttttcc tgtctttttc agacagggtt ttattaacat agattattcg atgacagga 120  
taataaaatc ctgacctatc ccacattgtg tctgggaact caaatagttt tatgttgtac 180  
tgattaagta tctcatctat cttcacca 208

<210> 656  
<211> 230  
<212> DNA  
<213> Streptococcus pyogenes

<400> 656  
ttatctgatt taggacattt atcaaatgaa gatggagcgg gagccatgat tagaagcctg 60  
gggtacaata ccaaaaaaat atacctaggt catctgagta aagaaaataa catcaaagag 120  
ttagcgcata tgacgatggc caatcaactg gctatggcag atttagcagt aggtacagac 180  
tttacgggtcc atgatacctc tccagatact gcttgtccat taactgatat 230

<210> 657  
<211> 411  
<212> DNA  
<213> Streptococcus pyogenes

<400> 657  
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tcatgaaacg attacgtcca tatgtgaaag ggtacctaaa agaaagtatc ttaggtcctc 120  
tttttaaatt attagaagct ttatttgaat tattagtcctc ttgtttaatt gctaacaatga 180  
ttgatatatc gattagtcaa cacaacagcc agggaaatctt gagggttggt ttaacattat 240  
ttggttttagc aaccattggc ttattgcttt ccgttacagc ccagtatttt tcttcgaaag 300  
cagctgttgg ttttacaaga caaatgacag atgatttggt taaaaaaatc atgtttttga 360  
gcaaggagga ccaagaccat cttgggttatg ctagtctggt atcacgattg a 411

<210> 658  
<211> 660  
<212> DNA  
<213> Streptococcus pyogenes

<400> 658  
aagaaatgga gcaaacaac aaggagcttt tgaaatcaag aaaaataaaa gtcaagaaga 60  
atataattat gaagtttatg ataacagaaa catacttcag gatggggaac ataaacttga 120  
aataaaaaga gttgatggga caggtaaac ttatcaaggt ttttgctttc agttaacgaa 180

aaattttccc actgctcaag gtgtaagtaa aaagctgtat aaaaaattga gtagtagtga 240  
tgaagaaaca ctaaagcaat atgcctctaa atatacaagt aataggagag gagatactag 300  
tggtaatctt aaaaagcaaa ttgctaaggt tctgacagaa ggttacccaa ctaacaaaag 360  
tgattgggta aatggattga ctgaaaacga aaaaatagaa gtaaccagg atgcaatttg 420  
gtattttaca gaaacgacag ttccggctga tagaagttat acgaatcgca acgtaaatag 480  
tcaaaaaatg aaagaagtgt atcaaaagct aattgataca acagatatag ataaatatga 540  
agatgtacaa tttgatttat ttgtgccaca agatacaaac ttacaggcag taattagtgt 600  
agagcctgtt atcgaaagcc ttccctggac atcgttgaag ccaatagccc agaaggatat 660

<210> 659  
<211> 410  
<212> DNA  
<213> Streptococcus pyogenes

<400> 659  
aacagggtga tcagcatagg ccatgacatt ggtggcttgc atagcccaat gaatggcttt 60  
tttgtcagct ggactaagat ttccaaagta agattgatgg ggaaaacgtc cgtaagaaac 120  
caattcgtaa acagttatgc cgttagtgtc ttcttgaact tgaggtaaaa gagctagttt 180  
tttagcaacc tctttagtgt ctaatgtggc aatgttttgc ccatttaaata atacaactcc 240  
ctgttttggt ggtaataatc ttgtcagtgc ttttaataaa ctagacttcc cacagccatt 300  
ggcgccaata atggtcgtaa ttttaccttc aggaatataa aacgataatt tatcgatgat 360  
ggtacgctgt tcataggcaa ttgtgaggtc ttcagcacta attgttgtca 410

<210> 660  
<211> 718  
<212> DNA  
<213> Streptococcus pyogenes

<400> 660  
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tccagcaatg gctacagctg ctgatgataa aataagaacc aaaatcataa agactgcact 180  
gatcaagttg gttttttgcc caagagcttt tgccctgagac tcacttagac taaggacggt 240  
caggtgataa gataatagct gggctaaaca aagactaaga ataataagag gagcaatata 300  
gccgatcatt tgccaattga ccccgacaag acctcctgct tgccagccga taacagcatt 360

tgccagatga tagtaattgg taataccttg acctaattgct gatagcagta tggaaaccat 420  
agctcctgct aagacaaggc ggagctgatg gtagcctttg ccagattgat aagaaaggcc 480  
aaagactaag gttgctgcca ggctagaccc taacaacgaa agcagaataa tgagggaata 540  
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<210> 661  
<211> 574  
<212> DNA  
<213> Streptococcus pyogenes

<400> 661  
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cggccgaagt cagataacac ttgtaaataa tcacgtttgc ggtattcaat cgagataaca 360  
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ggcttaagcg ttgtaacggc ttctaaatca gttgcagcaa cttgctttgc tttttttaca 480  
gtctttgcta agatgggggtt tttcttgta taagaagtaa ccccgactag attcatatct 540  
aattttttga ggtaaccagt gtaagttgaa gcca 574

<210> 662  
<211> 545  
<212> DNA  
<213> Streptococcus pyogenes

<400> 662  
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tactaaagtg tccagctatt aagccgataa aactaatatt accaaccaaa agaacactca 180  
aagcacctaa gccagctgct aagacaagta tcaaacgacg cttacggttt aaagggagtc 240  
ctagcccaat agcagtatta tcagctaate ccataatatt aaggaaatgg gcttgactat 300

aagtcaatag ccaaaaacac aataacaaag gagcgaatgac actcagagta ggccagtcgt 360  
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gaccaacaag agcaaccatt agacttgaaa gcatggtagt aacagctaca ccagtaagaa 480  
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ttggtt 545

<210> 663  
<211> 647  
<212> DNA  
<213> Streptococcus pyogenes

<400> 663  
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tatcatcggt cgtggagaaa tgatggatat gactcgaggg cgttctatca gtcgttttaa 180  
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gtctgaagag cctcaccgtt tggcacttaa aacacgtata aaaacactcg tcacacaagg 300  
gaatgttttt tacaatgtct atgataattt gaaaacctat cacgatatca aacttatgaa 360  
agagctacta agtgatactt ctgttccagt ccaaaaactt gatagttacg tagctagttt 420  
caatagtatg gataaattgg cactatataa taataaacac gattttgctt ttggcctatc 480  
catgttttcg aatcgaactc aaaattatga agctatgaat aatgaaaatc ttcattggctg 540  
gtttacttct gatggaatgt ttacctata caataacgat ttaggacact acagtgaaaa 600  
ctattgggca acggtaaatc cctaccgctt acctggaacc acagaaa 647

<210> 664  
<211> 585  
<212> DNA  
<213> Streptococcus pyogenes

<400> 664  
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ggtcctcggg gccctgctgg caagcctgga acgacagatt atgatcaact ccaaaataaa 120  
ccagatctag gtgcgtttgc acaaaaagaa gaaactaata gtaaaatcac caaattagaa 180  
tcaagcaaag cagataaaag cgctgtttac tcaaaagcag agtcaaaaat agagctagac 240  
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gaagggtgctg ctatggtgat gtatacaa at aaagatacta ctgatggacc attgatgatt 420  
ttacgttctg acaaagatac gtttgatcag tcagctcaat ttgtggatta cagcggtaag 480  
actaatgctg taaatattgt aatgcgccag ccaagcgcac ctaatttttc ctcggcactt 540  
aatataacca gtgccaacga aggcggtagt gcgatgcaaa ttaga 585

<210> 665  
<211> 537  
<212> DNA  
<213> Streptococcus pyogenes

<400> 665  
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aaactacaac aaaaagcaga taaagagacc gtctatacaa aagctgaatc gaagcaagag 120  
cttgacaaga aattaaatct caaagggtggc gttatgacag gtcaactaaa atttaagcca 180  
gccgccactg ttgcttattc ctcgtcaacg ggtggagcgg tcaatattga cttgtcgtct 240  
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agcttgcgga cgggtaaaga gacctttaat caatcggcgc tttttgtcga ctataagggg 360  
acaacaaatg ccgttaatat tgcgatgcgt cacgcaacca cccccaattt ttcacggcg 420  
cttaatatta ctacgggcaa tgaaaatggt agtgcaatgc agctacgagg gtcagaaaaa 480  
gcgctaggaa cgctaaaaat tactcatgag aaccaagta ttggagcgga ttatgat 537

<210> 666  
<211> 516  
<212> DNA  
<213> Streptococcus pyogenes

<400> 666  
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tatattgatt ctcttgga tggctggcag gtaaaacgct tccccactag caaacagggtt 180  
tatgcaattc gcaatattcc tatttacgaa cgtgttttga actttttctc aaatctagtt 240  
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tatctcctct atactaacgg aaaatttctt tatcttcacc aaaactttgt taccctaaac 420



ttaggaacat cttatccaac atacagcaat attcctgttc ttcagggttat ttcacaaggg 480  
 caaggacgaa cagctcttca agatgtgacc ttccca 516

<210> 667  
 <211> 604  
 <212> DNA  
 <213> Streptococcus pyogenes

<400> 667  
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 taactttaaa caatataaag aatttattga tatggatacg gcaaaacatt attttgaatg 180  
 ccgaaacata gaaggtttaa atcatatcct tgattcttat aaagatagta agtcaacaaa 240  
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 gttttcaaaa gttattgtga acctcgataa atacaatacc ctaagggtatt atgggaatga 480  
 atcgattcgg atgtttgtca atatgttgat tttgtttatt cagcgacaag agtatgataa 540  
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 acgg 604

<210> 668  
 <211> 522  
 <212> DNA  
 <213> Streptococcus pyogenes

<400> 668  
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 aggcttacga ctatgcttat gctaatacgtg ggatgaaaga ggatgatattt aaggatgtca 120  
 aaggcaagat tgcccttatt gaacgtggcg atattgatatt caaagataag gttgcaaacg 180  
 ctaaaaaagc tgggtgctgta ggggtcttga tctatgacaa tcaggacaag ggcttcccga 240  
 ttgaattgcc aaatgttgat cagatgcctg cggcctttat cagtcgaaaa gacgggtctct 300  
 tattaaga caatcccca aaaaccatca ccttcaatgc gacacctaag gtattgcca 360  
 cagcaagtgg caccaaacta agccgcttct caagctgggg totgacagct gacggcaata 420  
 ttaagccaga tattgcagca cccggccaag atattttgtc atcagtggct aacaacaagt 480

atgccaaact ttctggaact agtatgtctg cgccattagt ag 522

<210> 669  
<211> 554  
<212> DNA  
<213> Streptococcus pyogenes

<400> 669  
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aagaaatgcc actagaatct gcagaaaaag aagaaaaaaa gtcagaagac aaaaaaaga 180  
gcgaagaaga tcacactgaa gaaatcaatg acaagattta ttcactaaat tataatgagc 240  
ttgaagtact tgctaaaaat ggtgaaacca ttgaaaattt tgttcctaaa gaaggcgtaa 300  
agaaagctga taaatttatt gtcattgaaa gaaagaaaaa aaatatcaac actacaccag 360  
tcgatatttc cattattgac tctgtcactg ataggaccta tccagcagcc cttcagctgg 420  
ctaataaagg ttttaccgaa aacaaaccag acgcggtagt caccaagcga aaccacaaa 480  
aaatccatat tgatttacca ggtatgggag acaaagcaac gggtgaggtc aatgacccta 540  
cctatgccaa tggt 554

<210> 670  
<211> 518  
<212> DNA  
<213> Streptococcus pyogenes

<400> 670  
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tgattggaac tacttgtcag aaggaaaagt cacagcatat acgtacggcg gaataacacc 180  
ctacaaaaaa acttcaatac ctaaaaatat ccctgttaat ttatggatta atggaaagca 240  
gatctctgtt ccttacaacg aaatatcaac taacaaaaca acagttacag ctcaagaaat 300  
tgatctaaag gttagaaaat ttttaatagc acaacatcaa ttatattctt ctggttctag 360  
ctacaaaagt ggtaaattag tttttcatat aaatgataat tcagataaat attctttcga 420  
tcttttctat acaggatata gagataaaga aagtattttt aaagtataca aagacaataa 480  
atctttcaat atagataaaa ttgggcattt agatatag 518

<210> 671  
<211> 612  
<212> DNA  
<213> Streptococcus pyogenes

<400> 671  
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acggcaagtg ggatgactgc cactactcct agtgctacga cagatactgg tgaagcagct 180  
gggagcggag ctaggagtga agctaattgg gcctcgtccg tagtatctag cgaagaaagt 240  
cagagttcag gcactactcc agcctcacc ccaagcacaga cagctccagc agcaacgtca 300  
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aaagacggta agactccaaa aactaggagt agtggttaata aagacacaaa acttattaga 540  
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gatggcctat tg 612

<210> 672  
<211> 500  
<212> DNA  
<213> Streptococcus pyogenes

<400> 672  
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taccttgggt tgacagaata tagttcagat aacttagatg gaggagggtt tgattatagt 180  
aaacgtgtag ggaaggtta ctactaccac agtttatcag ataggaaata tgaaaataca 240  
atgccccttg aagaagctat caggacggcc ttagcatcta atttteccaa actcacagat 300  
aattggtttt tcgatatctt aaatagtttt gtcaataaag atacagttga gaaagctaaa 360  
ttagacgtaa ttatgaagg acttaatagt attttttaca aaaaagaata tcgctattac 420  
aaccataacc tgcagcaat agccgaagct aaaatggctc aacaagaggg cattaccttc 480  
tattccgttg atgttactga 500

<210> 673  
<211> 568

&lt;212&gt; DNA

&lt;213&gt; Streptococcus pyogenes

&lt;400&gt; 673

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agagatggca actttattta aggataaaaa cgttgatatt tatggtgtag aatattacca      240
tctctgttat ttatgtgaaa atgcagaaag gagtgcattgt atctacggag gggtaacaaa      300
tcatgaaggg aatcatttag aaattcctaa aaagatagtc gttaaagtat caatcgatgg      360
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agactataaa gttagaaaat atcttacaga taataagcaa ctatatacta atggaccttc      480
taaatatgaa actggatata taaagttcat acctaagaat aaagaaagtt ttggttttga      540
ttttttccct gaaccagaat ttactcaa      568
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&lt;210&gt; 674

&lt;211&gt; 597

&lt;212&gt; DNA

&lt;213&gt; Streptococcus pyogenes

&lt;400&gt; 674

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aaaagtaaaa ccaggtgaac aatcttttgt aggtcaacat gcagctacag gatgtgttgc      540
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&lt;210&gt; 675

&lt;211&gt; 553

&lt;212&gt; DNA

&lt;213&gt; Streptococcus pyogenes

<400> 675  
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<210> 676  
<211> 504  
<212> DNA  
<213> Streptococcus pyogenes

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tacttgacta ctcatgattt ttatattgat atttccagtt ataaaaagaa aaatttttca 180  
gttgattctg aggtcgagag ctatattaca acaaagttta cgaaaaatca aaaagtaaatt 240  
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<211> 645  
<212> DNA  
<213> Streptococcus pyogenes

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<210> 678  
<211> 703  
<212> DNA  
<213> Streptococcus pyogenes

<400> 678  
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<210> 679  
<211> 593  
<212> DNA  
<213> Streptococcus pyogenes

<400> 679  
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<210> 680  
<211> 544  
<212> DNA  
<213> Streptococcus pyogenes

<400> 680  
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<210> 681  
<211> 548  
<212> DNA  
<213> Streptococcus pyogenes

<400> 681

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 tataaatatt tattgggtta ctcacagtcg aattataaac catttattgt agaattagta 180  
 tttctatggg tatgctattg tatagtatta attatttcaa ttactatatt tattctttta 240  
 ttgaaaacta ttggtataaa tgtatctctc agactactta ttttgaatag ttttaatttat 300  
 atcatttttg cctatgtaac ctatctgac aatcatatta ttagctatat atttagtaca 360  
 ggtgtggcat taggtatttc aatggtaggt gttattgctg cagcattttg tgaaacgagc 420  
 cttggtgata aggtatggtt tcttattcca tgggcatggc ttttaagaat atcagatact 480  
 ctatataacc aacagaaaat ggcaattggt ccacttattg ttatatTTTT tgtttcatgc 540  
 acagtagc 548

<210> 682  
 <211> 311  
 <212> DNA  
 <213> Streptococcus pyogenes

<400> 682  
 aattagattt gaccattaca gagttgcagg accatattgc tcacttcaat aaggttgcgg 60  
 aggtcttgct taatctgaac aacaacgata tagagaaccg ccgtttggcc agatatgact 120  
 atgccaagat gaacttgact gcagctataa aaatagaaga agttgagaaa gagattgaaa 180  
 cttctcaaaa tgaacttaat atatccatag atgagtatga atatctagta agaaggttgg 240  
 aaaagtttgg agagatcttg agtgatagca aaattatcga tacttctcga aatgaaatac 300  
 aatgggagta a 311

<210> 683  
 <211> 521  
 <212> DNA  
 <213> Streptococcus pyogenes

<400> 683  
 gtcgttgaaa ttgtctttgg agtttgtatc actgttttaa tgattgcgat aatatcgctt 60  
 tctttttcaa agttaaatat agtgacatct cataatgtgg gagaagaatt ttatatataa 120  
 gataaacagt caatcaaaca gttgaacaat tatatgaaga cattgggatt agattatggt 180  
 gtttttgata gaaaaacaga taaagctatg gaaggaaaat atttatctaa agaattttct 240  
 ttatttaacg aagttgcaga agaaaaaat aatctgactt ttaattctgt acattatgat 300

ttatatacta atatcaatta taatattgtc ataagatata atgagatacc ggagttttct 360  
aaccattacc ttagaaatgt ttcataaac atgttgacat tttatattct gggaatagga 420  
acgagtatca gcattgtagt tgctttaaca cggtttgtaa aagaaatttc tttgaatttc 480  
aaggaaatca agaagttagc aaataaaatg gggatagaag t 521

<210> 684  
<211> 548  
<212> DNA  
<213> Streptococcus pyogenes

<400> 684  
cttatgaaga ctgctttgga gattgaaaat tatcatgtta taacctgtca agagatagaa 60  
ttaccaatag tttttgatga ttttaaagga tatgatttga tcttattgga tatcatgatg 120  
cctaataata gtggaactga gttttgttat aaaattcggg aagaagttca ttctccaatt 180  
atTTTTgtta gcgctttaga tggcgataat gaaattgtcc aagctttaaa tataggggga 240  
gacgatttta ttgtgaaacc atttagctta aaacaattcg tagctaaagt taactctcat 300  
ttgaagagag aagagagagc aaagataaag aatgaggctg aggagagagt gaagcgcagt 360  
tttccaccta tagaaatcta tctagaggaa cgtatgttat atattgataa acagccgtta 420  
ttcctgactt atagagagta cgaaatttta gaattactgt cacgtcatcc gtataaagtt 480  
ttcacaaaag aagagatata tgaacaagta tatagcgatg aagcttcagc attgtttcat 540  
tctatttc 548

<210> 685  
<211> 543  
<212> DNA  
<213> Streptococcus pyogenes

<400> 685  
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agtatgctac tagttcaaaa aatgttaaac attataacga ctgatataaa aaattttcac 120  
acattgatga ttgcttttat ctcatatatt gctttaacat tattgacaat tataatagga 180  
gaagttgata gttatattga tactaaatta cagatacttc ttactataa gatgaaccat 240  
ttagttatgc agaaaactgt aaagttaaca ttggctgaat ttgagacacc agaaatctat 300  
gatgatatca ctgcataca aaatcaaata tcttataaac cttttcaaatt atataagtca 360  
attattttctg tattatcttc gttagtatca ttaatttcct catttggttat tttattaaat 420

tggaagatat caatttttcc acttttactt atccttecta tcgtttctat atatatctac 480  
 ttgaaaattg gtaaaaatga atttgagata ctatataaaa ggagtagcga tgagagagca 540  
 aat 543

<210> 686  
 <211> 512  
 <212> DNA  
 <213> Streptococcus pyogenes

<400> 686  
 agcgatcctt atcttacttg tttttgttgc tttttacttt atccatcttg cgggtgcgtga 60  
 ttaccgaaat gcacgtatta ttcggatgat gagccataaa atccgagact tgattaatgg 120  
 tcgctatact gatataatcg acgaaaaagc agacattgag ttaatggagc tttcagacca 180  
 gttaaattgac ctgtcagatg tttttcgctt gacgcatgaa aatcttgccc aagaaaaaaa 240  
 tcgcttggca agtatcttgg cttatatgtc agatgggtgta cttgctacag accggtctgg 300  
 taaaatcatc atgattaacg agacagctcg caagcaatta aatttaagta aagaagaggc 360  
 actaaagaaa aacattacag atttgttaga aggtgatact tcatatacct accgtgattt 420  
 ggtatccaaa acaccagtgg taactgttaa tagccgaaat gatatgggtg agtttgtctc 480  
 attacgcttg cgctttgcgt tgaataggag ag 512

<210> 687  
 <211> 520  
 <212> DNA  
 <213> Streptococcus viridans

<400> 687  
 acgtcctctt aacagtcaca aggggacttt tggccgtgtc cttttgattg gcggcaacta 60  
 cccttacggt ggtgctatca tcatggctgc cttgcttgt gtcaatagcg gagctggttt 120  
 ggtgacggtt gcgaccata aggacaatat cacagctctg cacagccatt taccgaagc 180  
 tatggctttt gatatggttg aaaaagatcg tttgtcagag caaataacag cagcagatgt 240  
 ggttcttatg ggaccgggct tggcagaaga tgacttggct caaacaacct ttgatgtggt 300  
 ttggcaggct atcgaaccaa aacagacttt gattattgat ggctctgcta taaatctatt 360  
 agccaaaaga aaaccagcta tttggccaac caagcaaata atcctaacac cccatcaaaa 420  
 agaatgggaa agattgtctg gactgactat tccagaacag atagaagcag caacacaaac 480  
 agcactagct catctttccaa aagaaacat cctagtcgca 520



<210> 688  
<211> 463  
<212> DNA  
<213> Streptococcus viridans

<400> 688  
atcaggctgt tatgcgtctg attagacaaa aggatgaaca agttaagaaa ctgcaaagat 60  
cagttatddd cagacagcct gaaagactct atgatgctta tgttcaaaaa ttggatcatt 120  
taagaacaca tttgttgacc aaggtgcggc aggtttatga tgtttatgat agcaaggaac 180  
atgtgctgag acaaagattg ttgtccttta atttatcagg gtgtattcag cgctatcaag 240  
cacaattaaa acaagatcag cgtttattgt taagccacat gagcagtcaa tatgatagta 300  
aattagcccg ttttgaaaaa gcacaagatg cgcttttgtc actggatacg actcggattg 360  
tggcgcgtgg ctatgctatt gttcaaaaag ataatcacat tattcaatca acccaacaga 420  
tcaaaaaagg agatcgcttg catcttgaaa tgaaagatgg gca 463

<210> 689  
<211> 360  
<212> DNA  
<213> Streptococcus viridans

<400> 689  
aattgtgaac cagttagaaa ccggtgaaat tcctcttgaa gaagctatta ctcaattcca 60  
aaaaggaatg gcgctttcta aagatttgca gaaaaccttg gagtctgctg aaaagacctt 120  
gggtcaaagtc atgcaggctg atggcagtga agcagaaatg gacgagttgt gaaagataag 180  
attaaatcca ttaatcaggc tattaagcat tattatgcgc aaactcatgt gtctcaggat 240  
ttgattgaag cggctcttga ttctgttgat gcaggcggta aacggattcg tcctctctta 300  
ctattggaaa tcttgcaagg ctttggtttg gtacttacag aagctcacta tcagggtggca 360

<210> 690  
<211> 463  
<212> DNA  
<213> Streptococcus viridans

<400> 690  
gaagaaacgt gaacgattag aattaattaa aaaaattggt ttagaaaatg aaattgaaac 60  
acaaaaagaa ttggtcaaac ttttagagaa cgaaggctta caagcaacgc aagcgacaat 120  
ttcccgtgat attaattgagg tcggtatcat taaagtacca gcttcaaata gtcgctatat 180  
ttatggcctt tctaaggaaa taagcaaaaa agaagagtca acaccaaacc cagctgaaaa 240

agcagttaag tttatttcag atcaggtggc aggttttagag catctcattc atattgatgt 300  
tgttcttgga aatagctatt tattgaaacg ttttttacta gagagatttg aaggacttat 360  
tttttagcttg ctggcagatg atgacagttt gcttttgatt gttaaaaatg ctaaagatag 420  
tgatagaatt cgtcaagaaa tcaaattcttg gatggccaat taa 463

<210> 691  
<211> 412  
<212> DNA  
<213> Streptococcus viridans

<400> 691  
agatatgatt gcaacaattg aaaattttgc tcaagaacag gcagaatttc cggtttataa 60  
tatttttagga gaaatccata cctatggaga attaaaagct gattctgatt cgcttgcagc 120  
tcattcttgat cagtttagatt taacagcaaa atcaccagta gttgtctttg gaggacagga 180  
atatgccatg ctggctagtt ttgttgctct gacaaaatca gggcatgcct atattcctat 240  
tgatcatcat tcagccttag aacgtattga ggctatttta gaggtagcag agccaagttt 300  
agttattgct gttgatgatt tcccaattga caatcttcaa gtcccagtaa ttcagtatag 360  
tcaattagaa gagattttta aacaaaagct atcttatcaa atcaatcatg cg 412

<210> 692  
<211> 560  
<212> DNA  
<213> Streptococcus viridans

<400> 692  
gtgaaaagtc gcatcaaate tttgccttgt ttttctatat catttggcaa attttctgtg 60  
tctatagtta taaattttat agaaaatcac gggataataa gtggattttt tatcttcatg 120  
tcttcatgtc tatcttacct ttatcttttg taaagattac tcttgcgatt tggacaaatc 180  
aacaatcttt atttggtttt ttgggtatat cctatcttac ctttcgttca gtaggtatga 240  
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tgctgtttat gccactttt tcaagtgggc ccattgatcg tttcagaaga tttaatgatg 360  
attatgagaa gattcctgat aaagatgaat tgctagatat gttggaacaa tctgttcact 420  
atatcatgct tggttttttc tataagtttg ttttagcgca aatattggga acaatgattt 480  
taccggggtt gaaagaaatg gccttgcaaa aagggtggtg gttcaattgg ccgactttag 540  
gagtcatgta tgtttatggc 560

<210> 693  
<211> 250  
<212> DNA  
<213> Streptococcus viridans

<400> 693  
cagctggtgc agaagattta gccaaaattg caggtggtga cttgcaggaa tatggtttgg 60  
ctatgcttaa ggctggtacc aatttagcaa gtaaaacggc tgcacaactt gttgatattg 120  
atgctaaaac atttgaactt aatggtagtc aagtacgtgt agctcaagtc aatacggttg 180  
atatcaatga agttttggaa cgtcaaaatg aaattgaaga agccattaaa gcatcacaag 240  
cagctaattg 250

<210> 694  
<211> 508  
<212> DNA  
<213> Streptococcus viridans

<400> 694  
ttctctttaa tcaaacagga agtatagcgg atcgttatgc agctaaacgt ttattagaca 60  
ttaaacggag ttcgaatttg caaggtatga taaaaaaaaat tgcggctggt aaaaccttaa 120  
atagctttga tagggcaagc ctgcgcctta ttaagagttt cttgaaaaaa gaagacgctt 180  
tatttggaag tctgacctt agtgataatt atgaacgtcg tgtattgccg catgtcaaaa 240  
aattgcccaa gcacttttct tatggaacct taagtcaa at tgctagcaaa aatgggtcaa 300  
ggttaacaaa aacaaatcaa tttgaaatta atgatcattt ttataataaa cgtattaaag 360  
gacaattgaa aagactcaaa ggcttccaaa agcaactgtc ttatttacag tctccagaat 420  
acaatgattt acagctggcg ttaactcaat tagcaaagtc aaagaccttt gtcatttttg 480  
ttattccgcc ggtaatgcc aaatgggt 508

<210> 695  
<211> 300  
<212> DNA  
<213> Streptococcus viridans

<400> 695  
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ccactatagt caagaactaa attactataa tggtaatgcc atggaacttc gtaatggttc 120  
taatggtggt atgtttaact gtaattttgt ccctggaaat gtcggcttta ataacggctt 180

gatgagtcctt aaaattgaca gtgatggctg tggcggctac actgggggag aatggcgtag 240  
taaagaacgc tttggctatg gtcttttcca agtaaacaatg aaacctatta aaaatccagg 300

<210> 696  
<211> 266  
<212> DNA  
<213> Streptococcus viridans

<400> 696  
gtcttggcgc gagttttaaa ccaattcaat gttttcttga tgggtgtagct cgtgtttttg 60  
gtactgacgg tcagttctcc atcttcaatg ctagcggcca caatgtctgg catcttaagg 120  
acaatgcttc tatctgctaa agtcagtgtt aacagttcca tacctttctt ttctgtcgta 180  
gctgtttcat ctattgtaga taagtgttgt attttcttaa ctttagccaa agctttatcc 240  
acacgcccct gctcaaaagg cttcaa 266

<210> 697  
<211> 400  
<212> DNA  
<213> Streptococcus viridans

<400> 697  
cattgggttcg atcagtcaga ccaacggcat caaaattagt atgctgctta atgatattac 60  
acactttagt agctgattgc tgactcagtc cctgtcttaa ataaggaagg gtttgctgcg 120  
tcaaatactaa aacatcccga gtctgaacag ctctcagctg tctttcattg gataagtagg 180  
tcttgagaat agctagaaat aaggtcgaac ctagactgtt aagcaacatc ataggaatga 240  
aatcagttt aaccaaattc cagccagtaa agaaaccgac aaagagcatt tgaatacttt 300  
cagcaataat gctgataaca atgacctgcg aagtagatgg ataaaggta ttagttttta 360  
attgatcacc cagtcgacca ctaatatatc ctaccaaagc 400

<210> 698  
<211> 381  
<212> DNA  
<213> Streptococcus viridans

<400> 698  
tgattaaagg agttaagttg gtgaattgac ctgaaaaaat tgtttcaagt cccttaaatt 60  
tcgttacatt taagttgtca aattccaagg caattttaga ataattcgtt ttaggcaata 120  
aggctttaat tttttccaaa ggattttcaa aatcaagata gccagtcacc gaaatatcta 180  
atatactttt tgctcttaaa gcatcaagtt caggtaaaaa aagcagagtt tcttgatctg 240

caaagaggaa gaggaacata aggcgttcat gcggatcact ataaaaacct gttaaataat 300  
taatggagac aggatctgaa aggacagcag cttcaatacc ttgctttttg agtttttgaa 360  
caatctgtgc taattttgac a 381

<210> 699  
<211> 505  
<212> DNA  
<213> Streptococcus viridans

<400> 699  
agaaaaagtt gactacgaaa aagtaacagg acttgттаат tctacagaat cttttgggtc 60  
tgtagacgga cctggtatac gctttgttgt ttttatgcaa gggtgccaaa tgcgttgtca 120  
atattgccac aatcctgata cttgggcaat gaagaatgat agagcaacag aaaggactgc 180  
aggagatgtc tttaaagaag ctttacgttt taaagatttt tggggagata caggaggtat 240  
tactgtttct ggtggtgaag caacgctcca gatggatttt ttaattgccc tcttttcttt 300  
agcaaaagaa aagggaattc atacgacctt ggatacctgt gctctgactt ttagaaacac 360  
accaaatat cttgaaaaat atgaaaagtt aatggctgtc actgatttag tattgttaga 420  
tattaaagag attaatcctg accaacataa aattgtcact ggtcatagca ataaaactat 480  
tttagcttgt gcgcgttatt tatct 505

<210> 700  
<211> 407  
<212> DNA  
<213> Streptococcus viridans

<400> 700  
tgatgctgag tacaaggatt tatccaataa tctcagcgaa tcttactata ttttagaaga 60  
tgttagcaaa cgtctagaga ctatactgga tcatatggat tttgatgcca atactttggt 120  
taaacttgaa gcacgtcttg atgttatcaa caccatcacg cgtaagtatg gtggttcagt 180  
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tgacctcgct tttgatgata tggaaagaga actaaaagtt ttggagcgct cactattaga 300  
agcagcagct caattgagtc aaaaacgcca tgccattgcy gaaaccttgt ctcaggagat 360  
taagcaggaa ctaaaagatc tctacatgga taaggctgat tttaaag 407

<210> 701  
<211> 250



<212> DNA  
<213> Streptococcus viridans

<400> 701  
cggcagacaa gtcagtcatt actcagcctg ctacaaccct gacagctatt aaaaagattt 60  
tagagagatt agaaattggc ggtcgtttgg caattatggg atattatggg catgaggggtg 120  
gcgataagga aaaatatgcg gttctgaact ttgttaaaga gctagatcaa cagcatttta 180  
cagtcatgct ttatcaaccc ttaaatacaaa taaatacccc accctttttg gtgatgatag 240  
agaaattata 250

<210> 702  
<211> 213  
<212> DNA  
<213> Streptococcus viridans

<400> 702  
gtgatattat ccaaaccatt ctcaatgaaa gatttttcgcg gattcctggt tacgatgatg 60  
ataaagataa gattattgga atcattcata ctaaaaattt attgaatgct ggtttcaagg 120  
aaggttttga tcacatcaat ctctgccgta ttttgcaaga gccgcttttt gtaccagaaa 180  
ctattgttgt aaatgacctt ttgaccgctt taa 213

<210> 703  
<211> 615  
<212> DNA  
<213> Streptococcus viridans

<400> 703  
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atcgtatTTTg ctcaagaaaa tgcagctggt cactacaaat atgtgacgga tacagagcta 120  
agtagtcaag agaaggactt gattgtaaag ggcatctcta aaattacgga agatagttag 180  
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acaggTgggc agaatagcct tactagtgtt ttaactgggt gagtcctagc ttcgattggc 300  
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gccctgtcag gatataccta cctaggctat attaagcaag acaaagagat taatcagcaa 540  
gaaactgctg ctagggatca gaaatttgac tacacgggtc agcctcattt tcagaccaat 600

gaaggtagac aaagg

615

&lt;210&gt; 704

&lt;211&gt; 541

&lt;212&gt; DNA

&lt;213&gt; Streptococcus viridans

&lt;400&gt; 704

gaaggcaatg aggagactta ctatcttgtc tacagggttaa actcaaatgc tggatcaaaa 60  
accttaccga atacaggcga cagtaacaat tccaatacta tgatgacggc tggtttggtta 120  
acgacgatag gattgggttg ttttggtgtg tcgaaaagaa aggttaaaag caagttccta 180  
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gaaaatggga tcttgctaca gtataatgcg gaatatcaag tgtcggctgg ggaaagtctg 300  
ccgtcaccaa gtgaaatttc aggctatacc tatgttggct acattaaaga agaatcgatt 360  
cagaaattat tagacaataa gattcttaac aatcagcaaa atgctaattct agataaagaa 420  
actttaaac aaataagaa gctagattat tctctttctt ttgataagaa tgggctgaaa 480  
aatcaaacgc ttggcgtcaa tacaattgag cctcaagatg aagtcttgtc tggccgagta 540  
g 541

&lt;210&gt; 705

&lt;211&gt; 563

&lt;212&gt; DNA

&lt;213&gt; Streptococcus viridans

&lt;400&gt; 705

ttttattggg aggttttctt tattatatta ctaatcctat tgtcactttt ttagaaaacc 60  
gttttaaaat taagcgtatt tgggggatca ctcttatttt tgctgtattg ctttccttgc 120  
tggttttttc tattaccagt ctgattccca atttgattaa tcagctaaca gatcttattt 180  
cagccagcca aaatatattat gtgggtttgc aggatttatt caatgaatgg aaaagcaatc 240  
ctgcctttta aaatattgat atccctgttc ttttaaaaca gttcaattta tcttatgttg 300  
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ttacaaatac ggtgatgatt ctgggttcta caccggttat tcttttttat ctctcaagg 420  
acaaagatgg tttaatgcc atgtagatc gtactatatt gaaaaatgat aggcataata 480  
tcagtcaatt actgaatcaa atgaacaaaa ccatttctcg ttatattagt ggtgtagcta 540  
ttgatgctgc cttcatattt gtt 563

<210> 706  
<211> 500  
<212> DNA  
<213> *Proteus mirabilis*

<400> 706  
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ccctagcaga agatactggt acaccagcac caacagaagt tacagttaat ggtggtacta 120  
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aaactgttcg tttgggtcaa ttccgtgtcg ctgaattcac taaaaaagggt gatgaaacag 240  
gacgtattcc ttttagcatt aaattaaata actgcgatat tactgtttca tcattagcag 300  
caattacctt taacggtaca gcttctgatg gtgatgcaac tgcattcgca ttacaaggca 360  
gtggcgcagc aaccaatgta gcgttaaaaa ttaccgattc aagcagcaaa aatgttggtc 420  
caggacaacc ttcttcaact caaaaattaa tcgaagggtga aaaccaatta aattataacg 480  
cttctcttat ttccactgat 500

<210> 707  
<211> 346  
<212> DNA  
<213> *Proteus mirabilis*

<400> 707  
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tttctaccgt cctagtggat tgtccgctta tactgaaaaa tatgccaatg aagtgacttt 120  
ttcctataaa aatggggagt taattgcccc taatccaaca ccttatcata ttactatggt 180  
caatttagct gcagccgaca gtcaacttcc ttcaagtatt atgattaacc cattttcaca 240  
attaacatta ggaaaagtta atcagaatgc taataccatt tcattccaaa ccattaatga 300  
ttatggcgca cagactcctg ttttaaaaaa agaaatcggt catata 346

<210> 708  
<211> 563  
<212> DNA  
<213> *Proteus mirabilis*

<400> 708  
tggtgactc tcctgatgcc gtcaccgatt taagttatct tgaagcaggc aaccgcatta 60  
aaccgggtga ttatcttctt gatattgttt ttaatcatga gtatctgcgt agtgaaaata 120  
ttcatcttat tagtcaagat aaccatgtta ttcttgttt aaatcgagat tattatcaat 180

cactcgggat caatattaaa ctatttgctg attttgagaa attctcggca aatgaatgta 240  
ttgatattga aaaaatcatt ccagattctg ttgttaatta tgatattgag aaacaagctt 300  
taaataattca agtcctctca gccgcgtag atttgaaagc acgcggttat attccaccag 360  
aaaaatggga taacggtata acagcaggta ttttaaacta cacctttagt ggcgctaata 420  
gctggggaaa ttctcataat aatagctact acttaaactc acgtagtggg atcaatattg 480  
gtgcttggcg attacgcgat tattccactt ggaattcgtc aaacgggaaa aaccaatgga 540  
accatatcaa tacctatctg caa 563

<210> 709  
<211> 527  
<212> DNA  
<213> *Proteus mirabilis*

<400> 709  
atggataata agcgaacaca gcgggatatt atatttagca taatatggat tatttggtca 60  
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ctaattttta gcattattat ttactctata actttgaggt taaaaaaaaac ggcaatgttt 180  
agtcgaaaaa cagaaacacc aaaagccgcg ggcctattg ctccagttat ggcagaagag 240  
aagaagccta tgccggagca aaaattgtat accattattg ctaaaggcac tgtatttcaa 300  
ggtgatatta acgttgatgg tgatattcaa atttggggta aaatttcagg gaatatcaat 360  
gtaaaagatg gcgtgatccg tgttatgcat gcaggccaag ttgaagggga attgacggcg 420  
ccagacatca ttattgatgg ttttggttaa ggtatttggt ccgcaaaca tcttgatatt 480  
ctagagcatg gtgaactacg tggcactagt cgttgtggca gtatgtc 527

<210> 710  
<211> 431  
<212> DNA  
<213> *Proteus mirabilis*

<400> 710  
ttatattgaa aactgaagc aacggctgga tgcgattaat caactcaggc tggaacgtgc 60  
atgtgcatcg atgagtgatg tgtttaaaca ggtgtatggt ttaattcctg ttttactgca 120  
ttaccaccac cctcagttgc caggctatat tcaaggaaat gtccctcatg gtacatgttt 180  
ctttgaacct gatgacgtgc aacgtcaatg ggttaataag ctgactaatg catcatgtga 240  
tgagccaatg aatggatata ccagcggaga gttacctatt acgggtatct attcgatggg 300

aagtacttcc tcgattgggc aaagtcactg ctccgatatt gatatttggg tctgtcacca 360  
atcttggctg gaccaagatg agcgtgcgcg tttacaacgt aaatgtttac tgatagaaca 420  
atgggcagga g 431

<210> 711  
<211> 528  
<212> DNA  
<213> *Proteus mirabilis*

<400> 711  
cgctattaac cttgctgaac gtggtatgag tgtcactatc ttagaaaagg gtcagattgc 60  
cggtagacaa tcaggccgtg catacagcca aattattagt taccaaacat cgccagaaat 120  
cttcccatta caccattatg ggaaaatatt atggcgtggc atgaatgaga aaattggtgc 180  
ggataccagt tatcgctactc aaggctcgtg agaagcgtg gcagatgaaa aagcattaga 240  
taaagctcaa gcgtggatca aaacagctaa agaagcggca ggttttgata caccattaaa 300  
tactcgcatc attaaagggtg aagagctatc aaatcgctta gtcgggtgctc aaacgccatg 360  
gactgttgct gcatttgaag aagattcagg ctctgttgat cctgaaacag gcacacctgc 420  
actcgctcgt tatgccaaac aaatcggtgt gaaaatttat accaactgtg cagtaagagg 480  
tattgaaact gcgggtggta aaatctctga tgtggtgagt gagaaagg 528

<210> 712  
<211> 409  
<212> DNA  
<213> *Proteus mirabilis*

<400> 712  
ttgttgcaat acagccatca tgcttttaac ttgagagtta ataaatgtca catctgccag 60  
atatttaacg ctattatcgg gtacgtacaa attactccgt tccatatcca tatcgaccgt 120  
gttaccatcc atcgatgttt gatgaggaac ccgataaagc aaatcagcct ctaagcgata 180  
acccggctta ataggaatat gccgttctga tgtcattggt agttgcaatc catgactacc 240  
agtagcggcg ttttccatgg tttttttcaa ctacgtgcg aaatcaatat cccgagcttg 300  
gaagcctggc gtatcagcat tagcaatatt tgccgcaaaa atttcttggc gtttattacg 360  
tagtgaaagc gcttcttggt gaaaatgaaa cgtattttgt aatttatcg 409

<210> 713  
<211> 513



<212> DNA  
<213> *Proteus mirabilis*

<400> 713  
aactttagcc ccactactat cagtaatatt gactgtaagc gtatctattg gactaaagga 60  
ttcaaaacca aaggcgctgg cgaagatatt ttcattatca ggatctggcg tatcagcaga 120  
tcttaataac ggatctaatt tagtatcagg cgttttatct gtatcgatat ctgtatctgc 180  
atcagatcca gcgttttcac cattattact cttatcaacg tagatatcat taccggcaat 240  
catcaccata tgattaacca atgaggtcgc acgtaatgcc tgactttggg caatttggcc 300  
aacaatagta ttgactgttt tatttagcgt ctctatccct tcaaccgtag aaatctgtgc 360  
taactgtgac gttaactcat tattctgcat tggattgggt ggatcttggg tttgcatctg 420  
cgtgataagc aacgtcagga aattaccttt aatatcatca ctccccctt ttttagtgtg 480  
gtaggacgaa ggcgcttccc cgataatggg att 513

<210> 714  
<211> 404  
<212> DNA  
<213> *Proteus mirabilis*

<400> 714  
actccgccag accttagatc ttcagttatc acagctcaat accattgcgg gtattttacg 60  
tgctgagcaa cagttattat gtgcaggaag tattgatatc aataagctgc atgaaataac 120  
tgaacagaag aattttgtat taacagctct aggtcatacc gatcaaaaac gtcaaatact 180  
cagtaaaciaa gttgggtattg atagacccta tcaaggacag ctttttttag ctgatttatg 240  
ggggcaactg gttgatctaa cggaagagtt aaaacatctt aatcaacata atggcttatt 300  
gttagagcaa catattactc gcaatagtga aacgctgcat tttctacaga aaaatcatag 360  
cccaacactt tatgggtgcag atggacaagc acagcgttca atat 404

<210> 715  
<211> 236  
<212> DNA  
<213> *Proteus mirabilis*

<400> 715  
gcgattctat ggctgatgca ctaaaagagc taacattgcc tcaattgggt aagttggctg 60  
aaacaaacca actaatctgt aatttccggt ttgaagacag cgaaacaata gaacaactca 120  
ctaaagaatc cagagtggat gatttgcaac aaattcatac tgggtatcctt ctttcttcta 180

acttgttccg tcaactatcg gaacatgata cctctgctac aaagaaacgg gcataa 236

<210> 716  
<211> 633  
<212> DNA  
<213> *Proteus mirabilis*

<400> 716  
tctaattctta attcctctgt tcctattaac aagttttttac cttcaatatc aacttttatca 60  
tcatttaatt gtaatataac atgaccatgc ccctggattt taccaccaag agatatacta 120  
tcatcagcga caatatgaaa aacactatta tacgacaatg atatattggt tatttctagg 180  
gttcctactc ttccatataa ataactatca tcaatattaa atgttctatc taaaatcaac 240  
gtatccgctt tcacaaatag aatactatct ttaacattaa atgatgattc attaatataa 300  
gaagaatatt cataaaccat tacttttgat tgtttcgtcc catcatgagc tgttctatat 360  
aaattatcat cttgatttat atctatgtgt cctgtgttaa ttaagccata agactcatga 420  
tttagtgaca aagtatttat attaccatca ttataaacgt taccctcttt tgcttttatt 480  
attaaatatc gactatttat tcctgcctcg gcatttaatg aaaatagagc atttctatca 540  
taatcatttt tagctccaag attaaactca cttaacccca tatcaaaacg aatatattca 600  
gcatttaaatt cacctttaat caagtctata tca 633

<210> 717  
<211> 628  
<212> DNA  
<213> *Proteus mirabilis*

<400> 717  
tctttactga gcttccatcc agccgatccg agttgggtcac aaaccacgtg gaatgaacct 60  
attcaaaact taggtggcaa tattgggtgca tggcttgctg atatcctttt ttcagcattt 120  
ggcttgctcg cttatgcaat ccctattgtg gtggtatttg gttgctggaa tgcattacgt 180  
catcaaaaaa atcgtgaata cacagatttt ttctcccttg cattacgtac aattgggtgcc 240  
ttggctctgg ttcttacatc ttgtgcgtta gctgatctta attttgatga tatctacaat 300  
tttagctctg gtgggggtgat tggtagctta tttagcaagg cattgctacc ttggtttaat 360  
atgctaggtg caacactggc gctactatcg gtatggggcga taggctttac gctatttact 420  
ggctgggtcat ggctgacgat taccgaaaag attgggtgagg ttatcttagg tgcgggttgc 480  
tttattacta atcgtgggtca aaaagatatt gattatgatg attatgaaga acccgccgat 540

cctgctcagg cagatcccga ggcgttggtc gataacaaca cccagccaga acatcaactt 600  
tctgcgcaaa tagagccaga tagtgatg 628

<210> 718  
<211> 501  
<212> DNA  
<213> *Proteus mirabilis*

<400> 718  
tattgagcgc attgatttac gcaccaaaaa aacagagtca gggaaagatt ttcttgccat 60  
caaccctaaa gggcaagttc cggttcttca attagataat ggtgatattt taacggaggg 120  
tggtgctatt gtgcagtatc ttgccgatct gaagccagat agaaatctta ttgccccacc 180  
aaaagcatta gaacgttata atcaaattga gtggctaaac tttcttgcca gtgaagttca 240  
taaaggctac agccctctat ttcatctga tacgcctgaa agttatctcc ctgtggtaaa 300  
aaacaaacta aaaagtaaata ttgtttatat taatgatgta ctaagcaaac aaaaatgtgt 360  
ttgtggatgat cactttactg tggcggatgc gtatctgttt acgttaagtc aatgggcacc 420  
tcatgtggcg ctagatttaa ccgacttaag ccatttacia gactatctag cacgtattgc 480  
acaacgtcct aatgtgcata g 501

<210> 719  
<211> 301  
<212> DNA  
<213> *Proteus mirabilis*

<400> 719  
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tagctcttcg gcaagagaaa taccagcttg ctctgcatct tcaggtgata ctaagcgttc 120  
gccacgtaaa atagttttac catcaggggc gccaaactaat gctcgtagcc aaattttgtc 180  
gttttgccaa attgcataac taccaatagg tacttggcac cccccctcaa ggcgagtgtt 240  
catcgcacgt tctgctttta cacaagttgc agtatctgcg tgggtaaggc cggctaataa 300  
g 301

<210> 720  
<211> 507  
<212> DNA  
<213> *Proteus mirabilis*

<400> 720  
agcgcaact cttcagatac ataataata aatagacgct gataacattc acattcatca 60

acaattgcac cgcgttgacg taatgttggtg gcaagtagtt cgcgaccacc attgcctctt 120  
agtagtagta ctcgcttggtt ttctatttgt tgaagtgaag acaaggccag taggtcttca 180  
ctggtttctc caaattctgg ataacgtata gaatgtgctg ttaattgctg aaactcttcg 240  
gcggtgcttt gacctattcc ataatagaat agcgtatctg gccacgattg ttgtaattga 300  
tttagttgcc agtttgcgta ccacaccgca tttttagaaa gtaaaaaaag gtaatcacc 360  
gtacttagct tatttaattt gttttcta atggaaagct ctttaccgc ggctatttct 420  
attaaagggtg catgaaaagc atgctttccc gcatcaatta agcgttgctg aagttgttct 480  
cctgctgggc taggacgagt gattaaa 507

<210> 721  
<211> 402  
<212> DNA  
<213> *Proteus mirabilis*

<400> 721  
aatattggtc aagctgcaaa aaatccggta ttttcaagta aaatgatccg atattatgag 60  
caaattggtt taatacctaa ggcaattcgt actgacggag gttatcgtga ttacaatgat 120  
agcgatgtag attgttttcg ctttatcagc cattcacgtg ctcttggttt ttcaacagag 180  
caaatatcaa cattattagt tttatggaat aacagagaac ggacaagtgc tgatgtaaaa 240  
gctattgctc tttctcatat cgatgaatta aaccgtaaaa taacgcaatt gcaacgaatg 300  
acgcaaacat tatcgcatth agcacaagag tgccaagggtg ataataatcc tgattgcca 360  
attattgcta agctagtcga accccaaaca gggacagaac at 402

<210> 722  
<211> 300  
<212> DNA  
<213> *Proteus mirabilis*

<400> 722  
aaatagtggg ggtgtgttcc aagagcaacc tgactttaaa gagccaccac tttctattga 60  
aggtgcagcc gatcactgga accatcgtga agatgaagat tatttcagcc aacctcgtgc 120  
actgtatgag ctattaagcg atgacgagca tcaacgtatg tttgcgcgta ttgcgggcga 180  
attatcacia gcaagtaaag aaacacaaca acgccaatc gacttattta ccaaagttca 240  
tcctgaatat ggcgctggtg ttgaaaaagc gattaaagtg ttagaaggga aagacgctaa 300

<210> 723  
<211> 220  
<212> DNA  
<213> *Proteus mirabilis*

<400> 723  
atgaaagcaa aaattgtact aggtgcggta attctggctt caggcctatt agcaggttgt 60  
tcttctagca acaacgcaca attagaccaa atctcttctg atgtaaaccg tttaaatacg 120  
caagttcaac aactaagtag tgatgttcaa tcagctaacg ctcaagcaaa agccgcttat 180  
gaagcagctc gtgctaataca gcgtctagat aaccaagtaa 220

<210> 724  
<211> 521  
<212> DNA  
<213> *Proteus mirabilis*

<400> 724  
tgcacttggt tacgagagat ttgatccct ccattcttta gctgttctgg taatagtaaa 60  
caagcgatgg gacgttgaaa gcctgctaaa cgcgtatgat accattgtgg taattgatta 120  
attgtctcaa tatcagtatc aacaacagca acgggacgtt gaccaaattc aatatcgtca 180  
atcgggacaa taaatgtttg gcgaacatta gggtgactat ttagcacctt ttcaatatct 240  
tctggctgta taccttcacc cgcactaaaa aacagattat ctaatcgccc taaaatgcac 300  
cattcctctt ctttaaaaca acctctatcc cgtgttgcat accaagcatc ctgagtctgt 360  
gataacggct ttaattgacc atcaaacc aa taccctaata caacactatc agatttgatc 420  
tggatttcat tatccactaa tctgaccgct ttacccttta atggcggtacc aactcccgtc 480  
ttaccatctg cgcgtttttgc acaaacagta gaggccattt c 521

<210> 725  
<211> 273  
<212> DNA  
<213> *Proteus mirabilis*

<400> 725  
cagacaatgc gtttattttg tgttcactaa aagcgggtgag catatcgctc ataaaagtga 60  
gtcgtttttc tcgatcgggtt aggggtgatca taaatttcaa tttggtaggg ccatctaaac 120  
ggaagatgct cggttgctct tgcaataaac cgattaaata agtcggggtcg acattatttt 180  
tttcaccaaa ctcaataaag ccacctttgt catgggcttc aatgcgagat atacctaaac 240  
tcatggcgct taatcgaatc gccgcattac gta 273



<210> 726  
<211> 769  
<212> DNA  
<213> *Proteus mirabilis*

<400> 726  
aaacaataga tacttttgcca cttaactttc gtattttaat aaaattagcc ccaactccctc 60  
tgattagtgg cattattatg gcaataatct caacaatgct aagtttagca ccattatgga 120  
tcactataaa aatcagccag atttggtttt caacatcacc taatattcaa caaataaata 180  
atctagttta tatcactgtg attattttta ttttacgttg gggattaatg gcaataagtc 240  
atattgccgc acatcggggg gctttttata ttcagcatca attacaactc gcaatagcta 300  
aaaaaatcag taaagtacca ttatcatttt ttgctcaata tggcagtggg aatctgcgac 360  
gtattatcaa tgatgatata aaaagcttag aagggttttt cgcacatatg ctacctgatc 420  
tcgtctcagc catagtgact ccttttatcg ctattatatt acttttttat gtaaattggc 480  
ctcttgccctt attatctcta accccattac ccattgcttt tatggctcaa cttctcatgt 540  
tgcgctcgagc caataaacia accaatgagt ggatgaatat tcagaaaaaa attgctaattg 600  
aaataggaga atatattaaa ggaatacagag aaataaaagc gtttaactta acctcccata 660  
cttttggtaa attatctcaa tctatcaatt cctctgttaa atggataaaa aataatgtca 720  
aagctagtac aggctcttgg atggtattta gtgggatatt aacagcgaa 769

<210> 727  
<211> 516  
<212> DNA  
<213> *Proteus mirabilis*

<400> 727  
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attgatcttt ttgccaataa aatcacacta gctcagttat tttattactt tttatcaata 120  
ctcttatcta ttgttctgcg tattgtcatt ggtacttata gtatgccaat gatTTTTatt 180  
ggtgcttata aaatgatggg acaagcccgt ctaagaatag ccgatcattt acgaaaaatc 240  
ccgattggct ggTTTTcttc tcaacgcagt ggtgatcttg catcacggct tactgctgat 300  
ttagagatca ttcaaaatat ctggtcacat ttcttaggaa tgtttatcag tacttttagcg 360  
atgcctgttt ttctctcact attcttagta tgggtagatt ggcaactcac ttttaattata 420  
ttattttcta ttccaatcgc tctgttcgca ttatccataa gccataaaat aatgttaaaa 480

gctgcacaac aggcagctga tgctaatagcc aatgta

516

<210> 728

<211> 673

<212> DNA

<213> Proteus mirabilis

<400> 728

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gactaccctt ttataaaaca acgaaatatt tttttgctat caagagtcac gttacgcgat 120

atthttatcat tttattttaa aatttcacca gaagatgtaa gattttcaaa aaatgagtac 180

gggaaaccat ttatttttaa cgaatcaaag gaaagcattt acttcaattt atcacattca 240

aataattgtg ttgctctcgc tatttcaa atcatcatccg ttggtattga tattgaatat 300

ttcaaccgtg atatagaaat aaatagcatt atagattatt atttctcaaa aaaagaaaaa 360

aaatacctat cttattttga cgagactcaa aaaaaacata atttctataa gatgtggaca 420

ttaaagaag cctatattaa atcaagaggc attggattat cagaagaaat cattaagaat 480

ttagattttt atataaagag agatcaattt gataaattat atthttataga acagcattac 540

tctgctcatc tttcatatat taccaa atcatataga gctataaa atccataatc 600

acatatcacc atccatttaa ctataaatc ttaacatggg gtgatataaa aagcaacctg 660

ccacatcatt tat 673

<210> 729

<211> 682

<212> DNA

<213> Proteus mirabilis

<400> 729

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accaagatac aacaaagttc acactaccaa tggcaattaa caccttgtgt ggaacaagat 120

cttatcaagc caacattaat atttaaccat caacaaacat tgccttctga aatcacagct 180

atthttatccg ctattggatg tctttctgaa cagggcgaaa atcaattaat cgttgccaac 240

cttgacagatc ctttaattat cgccgagcag atccgcaaaa tattactgtc atcgtctgat 300

gggtttgttg ttatcacgca acaagcctgg gcattaactg ccatagaaac ggttaatcca 360

gcacaacgta gtattcgaag tttattaaaa actattcaaa aagaatatag ctcaaggtta 420

attgccattg ttgatttagg tataaatgcc tcatgggtctg aattagttcc tgcttttata 480

caaatagaac aaggtaataa tgaaattatt gttcgttaacc attgctgcta cttaccacaa 540  
ttaaccccac tgccctcatc ttctacgac atagcgcaga acatcatggt atccccgcgc 600  
tggcatatta ttactggtgg ttttggaggc ttaggtcgaa ttacagcaag ttgggttagta 660  
aggcaagggtg ctaaacgtat cg 682

<210> 730  
<211> 609  
<212> DNA  
<213> *Proteus mirabilis*

<400> 730  
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gcatttaact cgtggagatc taccgatatt tcagggttaa attgtcaatt agttaattac 120  
tctggccatg gttgcagatt taaagaacca gcctttaatg atattgggtt attagccaat 180  
gaattaataa caataataaa gaaattttat ccaccacggc ataattcatt attactttgc 240  
ggtcacagta tggggggcca agttgccttt gaaactgcta ttcaattaga aaaaaatggc 300  
tgggaattat ctggactaat attatcaggc tgccaagctc ctcatattca agcaaggaga 360  
ttactgagtg atttaaatga tgatgacttt attcaacaat taattgccat tgggtgatgt 420  
gatgctgaat taatcaagca gccacagttg ttaaaacagt ttatgccatt attacgtgct 480  
gatttccttg ctaccgagcg ttatTTTTTT caaaaaagca ctaaacggct ttttcatacc 540  
cctgttttat taatgtatgg tagtcatgat agtgaagctg ataaaaacga agttgaagca 600  
tggcaagat 609

<210> 731  
<211> 609  
<212> DNA  
<213> *Proteus mirabilis*

<400> 731  
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agcttgtatt gttgtgcgat cagccattgt tgggtggcgaa ggtagccaac ttgcgcaagc 120  
atTTTTTACAA cgggggatct cggttgtaga ggaacatcct gtacatcctg atgaaattac 180  
cagactacaa tcattagcag aaaaaatgca ttgccactat atcgTTAACA gcctctatcc 240  
acataataaa gcaggacgtt tatggataga aaacacacag aagatatatc agcaaataca 300  
acaacgacca gtgtggggac aaattatcac aagcaggcaa ttaatttatt ccgccttaga 360

tatatattgc caagcaatga aattacaccc taatgatatt acagtcacat tagaaaaaga 420  
taataccccg ctacaatttc tacgactatc caaccctact ggtgatttgc ttttatgcct 480  
acaaaaacat ttgtcatcta acgatcctga tcagcatagc ctcgtgatgc atcatatgat 540  
attaggctgg ccagctgggt atttaactct cgctggaagt tatgggccag tagaatggaa 600  
taatgcgct 609

<210> 732  
<211> 502  
<212> DNA  
<213> *Proteus mirabilis*

<400> 732  
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ttttacatat taacgcctcc gcatcggtga tgcgttattt cccttcacca cttactcgtg 120  
cagaaagcga tgcaatgggt gatacattgc gtgataaatt tattcagcaa aatgggtggg 180  
gattttgggc cgttgaatta aaagagactc aagagcttat tggctttgtt ggattaaata 240  
ttcctaattgc ccctttgcct tttaatccgt gtgttgaaat aggttggcgt attgcacaat 300  
ctcattggcg caaagggtag acttatgagg cggttttaac agtattaaaa tatgcttttg 360  
aacagttgaa actggaagaa gtcgtggcat ttaccgcagt gactaattta ccctcagaag 420  
gggtgatgaa aaaactcggg atgaagaagt ctgaatattt tatgcatcca tctctagata 480  
aaacacaccc tttagcacia ca 502

<210> 733  
<211> 511  
<212> DNA  
<213> *Proteus mirabilis*

<400> 733  
tgccgcttta gtatttggtt ttaattctgt tgctacagct gaaaatgaaa cgctgcacc 60  
aaaagtaagt tcaactaaag gcgaaattca attaaaagg gaaattgtta attcagcatg 120  
tggttagca gcatcttcaa gccctgtaat tggtgatttc agtgaaattc caacttctgc 180  
attagcaaat ctgcaaaaag caggaaatat caaaaaagat attgaattac aagactgtga 240  
tacaactgta gcgaaaactg ccacagttag ctatacacca agtggtgtta acgctgtaaa 300  
taaagattta gcctcttttg tttctggtta cgcactctgg gcaggtattg gcttaatgga 360  
tgcaggtagt aaagcagtta aatggaatac tgcaactaca ccagtacaat taattaacgg 420

tgtatctaaa atcccatcgc ttgcttatgt tcaagctgaa tcagctgacg ctaaagtaac 480  
gccaggtgaa ttccaagccg ttatcaactt c 511

<210> 734  
<211> 726  
<212> DNA  
<213> *Proteus mirabilis*

<400> 734  
tttctcacaa gcagagcagg acgattctgt ggaatttaac attcatatgc tagacgcgga 60  
agatcgcgat aatgtcgacc ttccacgttt ttctacctca aattatatca ttccgggtat 120  
gtactattta gatattcgtc taaatggctg cgactttcct cgccaaaata ttaattatat 180  
tgaagtagca gataatcatt ccgtggcttg tatcgaccct actcttttaa aaaagttaac 240  
aatcaaccaa gaaaaccaa aatatatcaa acaaatatca ccagattggt ttgatattag 300  
ccaattaccc ggtatctcga ttaaaaatga tgggtggtgta cttgatatca cgttaccgcg 360  
ctcattaatg aaatatgaag aatctgattg gacacctccg gagctttggg atagcggggt 420  
ctctgggctt atttttgatt atacactaac aggaacgtca actcgcccta ataaaggcaa 480  
taataacaat acgttaactg gttatggtca agcgggatta aacttgggtg aatggcggtt 540  
acgagctgaa tatcaaggca attattcttc tgaatattca tctaacaatc gttttgattg 600  
gaaccaaatt tatgcctata agccattacc tgatctcgca gctaaattaa cggttgggga 660  
aacttattta aactctcaaa tttttgatag tttccgtttt acaggagcca atttacaag 720  
cgatga 726

<210> 735  
<211> 568  
<212> DNA  
<213> *Proteus mirabilis*

<400> 735  
atgccgtatt agatcacacc acctttccta ataacaaagc gggagaatta gcaacagtaa 60  
acttttcggt gcctgatcgc tatgatggca cggatatattg tcctaactca cgtatttatg 120  
atcgtgcatt aacctatttt aaagcaacca ctgatttacc tcctgttggt aataactttt 180  
atcaattaaa tgagtatggt gatatcaaaa ttaattttga aatttggggg cctaatacctt 240  
taccacagc gcccttttct gacataccta ataatagaaa taaccaacaa ggttgcagag 300  
taccctcttc acctaaaccg catatttcct caggaagtag cggtaactc actttccgtt 360



taagaaaacc cattattaat ggtgtcagtc ttaatgggca atctcttgca caaatgtatg 420  
ccatggtaag tcacagcggg gcgcaaaaaa cctatgggtc agagcccatt tctaaattag 480  
tgatcacctc ggggatcatt accactaaag ataaatgtat ttttaataat gggtcaccaa 540  
ttacctttga ctttggtaat gtgggaaa 568

<210> 736  
<211> 544  
<212> DNA  
<213> *Proteus mirabilis*

<400> 736  
aacaggcaca ttaacagagg gtaaacctca agtcactgat gtcatagcta atgtaggctt 60  
taatgagaaa gagctactga tgttggtctc ttctgtagaa gttggctctc atcacctct 120  
tgcaaaagcc attattaata aagcacaaga gcaacaaatt gatgttgtgg aagccgataa 180  
tcgcaaggct ttagcgggta aaggattga aggttattta aataatcagc atattctggt 240  
cagtgcacca acacaattat cagaaacct accattatct gcacaatggc aacaacaagt 300  
cgctcgtctt gaagatgaag gcaaaaccgt tgtggtggtta ttaaagaag atcagttcat 360  
tggtgtgatt gcgatgcaag atacattgcg caacgatgct atcgaatcaa tgaaagagaa 420  
gaaagtgttg aaatcgatga atatcaatgc cgtgatgtta accggtgata acccaagagc 480  
agcggctgcg attgcacaaa aactgggtat ggatttccgt gcaggattgc tccctgaaga 540  
taaa 544

<210> 737  
<211> 641  
<212> DNA  
<213> *Proteus mirabilis*

<400> 737  
gcacactgac ccaattaaag ccaaatacat taactcgctt atatgctctg tttcttctgt 60  
ttatggccat atcccttttt ctatatgctt atagctatct tgatacttgg ctagaaagta 120  
aaaaaatgc cattaacaac acgactaata agtttgcac tcaagttgaa gattaccgct 180  
atcacgctaa ccaactattc cagttatcaa acaaaattaa tgatccaacc ctctttctgc 240  
ctttaaaaat caatccggtc aaactacgct ctgatgttta ttggcttgaa ggacgcgac 300  
agaccgttga tgctattggt tttggtaa atcgaatgaaca aacctttcag ttagccggtt 360  
attttgcaaa cgcgtagaa attatttggg gggtagctaa taactatagc tctctctatt 420

atcttaatgg taaaggcaat gatcttatcc ttattactac ccactcaata ctaaaaccag 480  
aattgcgtta taaagaaagc tatttaacac taacggctga aaacaaacgt tctgagctat 540  
taatgcaatc aacggcatta gatgaaaaag agagcctttc tcccattagg aaaatgccga 600  
cagaaaacat ttattactat acctatcgca ccatgtttta t 641

<210> 738  
<211> 699  
<212> DNA  
<213> *Proteus mirabilis*

<400> 738  
tggcttggaa acacaatcat tcattcccgc atcaatacaa cgttgttttt cttcggcaat 60  
cgcatttgct gtaacgcaa taataggaat agtgctactc aattcacgca ctgttgctgc 120  
taattgatag ccattcatat ttggcatatt gacatcgggt aaaataatat cgacatgatt 180  
ttcttgcata aaggctaaag catcacagcc atcttctgcc gttgcggtat taaaaccaat 240  
ttttttcagt tgatcgggtca acaataaacg attgataggg tgatcatcaa caatgagcac 300  
cgtcaataat tgtagatcgt gatctgtcat taacgcgtta ttttctgagt catcagactc 360  
taattttggt tgtggtaatt gtaggataat cttaattaat tcattttaatt tatatgtact 420  
gcataaccaa ttattttcag agattttctt tgctggctca aaatagtgtt cataaatacg 480  
gataaattgg caagagttat ctaaacattc atcatgatcg gtgataataa aatcattctc 540  
agatacctga gtcacttccg tgaataattg acaatgtaag cccacataac ttagatatcg 600  
ttcaacaaag ctttctagat agagattttt aatactgata aagcagcgaa tagtactctc 660  
tttatagaga ttatatattg tttgtccatc actcgaatt 699

<210> 739  
<211> 341  
<212> DNA  
<213> *Proteus mirabilis*

<400> 739  
cgagcatgac actaataatg gctttactgt cttggatgct gcacaagtta atgatcgtgg 60  
tgttgatgat ttagtcgcgc aaattaaaga gattgtgggt tcaacttctg tttatttgac 120  
ttttgatatt gattgccttg atcccgcatt tgcaccgggt acaggaacac cggttggtgg 180  
gggattaacc acggataagg cgctgaaaat gctgcgtgct ttacagccgt taaatattgt 240  
aggcatggac ttagttgaag tatcgccagc gtatgatcaa tcagatatta ccgcccttgc 300

cggagcaacc attgcacttg atatgctata tctgcaagcg g 341

<210> 740  
<211> 323  
<212> DNA  
<213> Proteus mirabilis

<400> 740  
tacgtacatc gccaccagcg aaaactgcat attgccatta atacttttgc tcacccctgat 60  
ggatttgaac gctggcaaaa agccattgat atggcggctc atttaggtgc cgatgcatta 120  
atatttgccg atattgctat gctagagtac gcagctgaac gctatccaca gatagagcgt 180  
catgtatcgg tacaggcgtc ggccactaat actcaggcaa tcgcatttta tcaacgcaat 240  
tttgatgttg cacgtattgt actaccacgc gttcttttcta ttcacaaagt caaacaattg 300  
gctcaaagta gtccctgttcc ttt 323

<210> 741  
<211> 360  
<212> DNA  
<213> Proteus mirabilis

<400> 741  
gaaatacgc ttaggctctg tacttttatta ttggcaaaaa gaaacacttg agacatttta 60  
tcggcaagca aaacagagcg atgctgatat tatctactta ggcgaaacag tctgtagtaa 120  
gcgccgtgag actaaaccac aagattggat taatctggcc aaagaagtgg ctaaaagtgg 180  
taaacaagtg atccttttcta ccttagcact actacaagcg ccttctgaac taaaagagat 240  
agcaaagctg gtggataacg gtgaattttt agttgaggct catgattttg gtgtgatcaa 300  
tatgctttat gagcgtcatt taccttttgt agtaggccat ggattaaact gctataacgc 360

<210> 742  
<211> 516  
<212> DNA  
<213> Proteus mirabilis

<400> 742  
caaggtttcg ctaactaaag agaaaccggc aattagctta actaaaaagg atgatttcgg 60  
caaaatccgc attaacctcg attggcatcg agaaagtaaa agcgggtggtt ccgggttatt 120  
agggtggatta tttggtggta acaaaggtat tgatttagat attggcgcct ttgttgaact 180  
acaagatggg tataagtcag tgatccaagc cttaggaaat ggattcgggtg attttaatcg 240  
catgccttat gttgagttac aagggtgatga tcgcactggg gatgtagcgg gtggcgagtg 300

gattttttatc aatggacgtg aatggaaaaa tatcaagcaa gtgcttattt ttacttttat 360  
ttatgaaggg gttcctaact ggagtaaaac agatgggtgtg gtcactattc atgttcccga 420  
gcaaccacct atcgaaacac gtttaacgga tggtaataat ggtcgagcta tgtgtgccat 480  
tgcacgactt attaatgaaa acggatcaat caaagt 516

<210> 743  
<211> 516  
<212> DNA  
<213> *Proteus mirabilis*

<400> 743  
ttctaaaggt ggtaatgttt ctttaagcaa agcagcccca acgatgaaaa acgtcctagt 60  
eggacttggt tgggatgccc gttctacaga tggtaagat tttgacttag atgcatctgc 120  
atttctgtta gccgctaatt gaaaagtacg tagcgatgcc gatttcattt tttataacaa 180  
cttaagatct tccgaaggct ctgttggtca cactggatgat aaccgaacag gtgaagggtga 240  
tggatgatgat gaagcactaa aaatcaaact agataccatc ccagttatg tcgaaaaaat 300  
tatctttgta gtgactatcc atgaagcgca accgcgtcgt caaagctttg gtcaggatc 360  
tggatgcttt attcgttttag ttaatgatga caaccaaatt gaagttgctc gttatgattt 420  
aacggaagat gcatcaacgg aaacggcgat gttatttggt gagttatatc gtcataacgg 480  
tgagtggaaa ttccgtgctg taggccaagg atatgc 516

<210> 744  
<211> 500  
<212> DNA  
<213> *Proteus mirabilis*

<400> 744  
gagccttggt tatccctctt tcattccctt tactcgcctt atcttgctac tggtgggcag 60  
gaaatgggtct ggtggataga acatggacag cttcaggaat ggatagctat agttatcgcc 120  
aagcgctaag acagccaacg gttggctcac gttatactct ttttaatat acacccgata 180  
tgccaacgcc aggtggcacg agtcctgttg gtactaaagg aattcgctat attgcgatga 240  
aatatggccc ttatggacaa cctgaacact ataaaacct ccaagtgatg ttctctcact 300  
attccaccac cactacacgt aaagttcgtt atttaggtga gttatatacc gttgtcgggtg 360  
atatattattt aatcgatcct gctgctacca ccaatgaatg gcaacgcggt cgtagccaaa 420  
tagttgaaga gtattatgag attttagata cacatggaaa taggacaggc aaaggattgc 480

gttttaaccg ctgggataga 500

<210> 745  
<211> 550  
<212> DNA  
<213> *Proteus mirabilis*

<400> 745  
gctcatatca tcttccatcc ctgcgcaaac cgacttaccg taaactaaca caagatgatt 60  
atgggggtaat tagtgactat ttgtcctatt ttggcacctc taagttttct gctgggtatt 120  
cgttacaaaa ctttcctgaa ataccacta aaggtgaagt cgttacgaca ctgcgtaata 180  
ttgttaatcg gtttgcgga tcatcagagg ggatcaatca ttggcgctat tacattgatg 240  
cggtagagat ccatattcct ccattaactgg tgccttatct gcaacaagaa aatgtcctcg 300  
atgtcgtttg tactccttct atccccattg tcattggtgt gaatggccat tttcttaaag 360  
atgaaaaatc acatttttct gcgtaagtt taaaacaact ttctgaacct atactgtcaa 420  
atggcacttc cactatccag aaaaatgaag gtgatgcggc gcatttatta catattcgcc 480  
aagaaaccaa cgaagagtat cggttacacc attcttcagg tttttggaat ggttcgttaa 540  
tttgcttagg 550

<210> 746  
<211> 401  
<212> DNA  
<213> *Proteus mirabilis*

<400> 746  
aagataggta cgcttttaat ttcttacagt ttactcacia tgagtttgat ctctttttcc 60  
tcctttgctc aagtaaatca cgatccctg accaaatggt atgagttgtc aacagatgca 120  
agccaaacaa ccattaaatc ttgtctatta gatgaactga gattatctga agagcagttg 180  
aatgttatct ataataaaag caaaggcgac cttgaagata gtgactctat cgcggctaaa 240  
agtgtattg atgcattagt cagttcacia gagcagttta ttcttttttag aagtagtgaa 300  
tgccaacgct aatctgcttt aatgatgggg ggcaatggtg ctgatgaagt actgctggct 360  
tgtgaaataa aattaaatca atggcgagct aaattattac t 401

<210> 747  
<211> 513  
<212> DNA  
<213> *Proteus mirabilis*

<400> 747  
tcacagtcac cactaatctc acgttgatta ttcctaaata tagtcaagtt tcttgtgatg 60  
tgacaaatth tttcccgacc aaaccgattg aattacatac cttagtactg tctgaaactg 120  
aattacaatc tgtgtttctct ttactcaaac cattaataaa atcaggggcg ccgattactc 180  
gtcatcttcc agattatcat ctatcaacac ctgaggtggt taaaactaat tttacggtac 240  
ttcagcaatg tctaccgctt gaacatggca cccctctca agagaccctg tttatgcaac 300  
agagcctctt ttttattttg ctggcggttt atcacgaagg ggtcgatatt cttaatattt 360  
ttcgttttta ttatgatgag ccaaaaaatc aggcgatcac tcatctaata acacaagatc 420  
cgcaacgtaa atggcattta gaggatgtag caaaaacgct ctatactaca ccatcaacat 480  
tacgtcgcca ttttaagtaaa gagggcggtt cgt 513

<210> 748  
<211> 583  
<212> DNA  
<213> *Proteus mirabilis*

<400> 748  
acgtccctga aacactctca ttagccattg atagcttctt aagttatata gaagttgaac 60  
ggcgattaag tccggtaacg gtagaaaatt accagcgaca attaatagacc attgcacaaa 120  
tgatggttgc aataaaaaatc aaccaatggt cgttactgga aagccaacat gtgcgcatgt 180  
tattggctaa aagccatcgc agtggattac aacctgcaag tttagcattg cgcttttcag 240  
cattgcgtag cttccttgat tggcaagttt ctcaaggaat gttagcagta aaccccgcca 300  
aaggggttcg aacacccaaa tcaggtcgtc acttgcctaa aaatatggat gttgatgaag 360  
tcagccagtt gatgaatata gacttaaaag atccctctc tgtaagggat agaacgatgc 420  
tggaagtgat gtatggcgct ggattacgtt tatctgaact gactaactta aatatcaatg 480  
atattgatct ccaagaaggc gaagtccgag tattaggtaa aggcagtaaa gagcgtaaag 540  
ttcccttggg aagaaaagct gtagagtggg tacagcattg gtt 583

<210> 749  
<211> 193  
<212> DNA  
<213> *Proteus mirabilis*

<400> 749  
caggaacggg tttcttatca tcaataagat gtctaattgc taaataggga tgataaatta 60



gcattcgagg cccagcccaa cgcattgactt gtttcattgc tgctcttttt actggctgat 120  
agcagtgaat tgggcattgt ttgcaggcgg gtttttcctc accatagcga catttatcta 180  
gtcttttata agc 193

<210> 750  
<211> 520  
<212> DNA  
<213> *Proteus mirabilis*

<400> 750  
atcactttcta tccaaaacga agtgaagaac gtttttagacg aaatcaaccg tattttctgaa 60  
caaactcagt ttaacggcgt taaagtactg agcggtgaga aatcagaaat ggttatccaa 120  
gttggtacta acgataatga aactatcaaa ttttaacttag ataaagttga taacgatata 180  
ttaggtgttg ctagcgataa actgtttgat accaaaacag agaaaaaagg tgttacagca 240  
gcaggtgcgg gtgttactga tgctaaaaaa atcaatgcag ctgcgacact ggatatgatg 300  
gtatcactgg taaaagaatt taatcttgat ggtaaaccag taactgataa atttattggt 360  
actaaagggtg gtaaagacta tgtagcaact aaaagtgatt ttgaattaga tgctacaggt 420  
actaaacttg gattaaaagc atctgccact acagaattta aagttgatgc aggtaaagac 480  
gttaaaactt taaacgttaa agatgacgct ttagcaactt 520

<210> 751  
<211> 515  
<212> DNA  
<213> *Proteus mirabilis*

<400> 751  
caacagtgat ttccatttga gaatctgtac cttcttttacg agaagtcaga actaaatggg 60  
taacgccatc ttgggctttt acaatagtgg cagaaacggt gccttctttt ttattgatag 120  
catcacgtaa ttcaataata gaagtttggc tgtctgttaa ctctattttt aaaggctctt 180  
tttcaccttt ttgggtgatc actaaagtcc gtgttttgcc ttcacctaata gtttcaccaa 240  
taggatcttt gatatcactg acggcttttg atttcagtgt ttgagcatgg gcaagctctg 300  
ttacagagac cgtataatta ccaatgcttg ctttaccatc agtggttact ttaaaggcat 360  
caaactcatc atcaactttg gtggcgacga ttttatcgaa tttttttaat tcttcagatg 420  
ctttctgtaa tttatctaata tggctacgaa tttttccata tgcagtaatt tgtgcatcgt 480  
agcttttcat ctgtttgtct aaagggtcaa ggcgt 515

<210> 752  
<211> 274  
<212> DNA  
<213> *Proteus mirabilis*

<400> 752  
acacaatcca ttcacagtt agagcaggat ctaggacgac caccatcaga acaggaagtt 60  
gctgatcatt tgcagattga gttagcagaa taccggcaga tcctattgga taaaaataac 120  
agccagttgt tctcttatga cgaatggcat gaaatttacg gtgaaagctg tgaaccgtct 180  
caagacgaag atcacgatga caatccttta caaatgttat tggaaagtga tatacgccaa 240  
agagtcatag acgcgataga attgcttccc gaaa 274

<210> 753  
<211> 657  
<212> DNA  
<213> *Proteus mirabilis*

<400> 753  
gacttaattg ctctctgtat tgatagtaga gggaaaatca ctgctgctga aatttcagcc 60  
tttactggac aaaacacctt ctcaacaat tttgatattc tctcttcaca aaaaccggtt 120  
tcagcattag atagctatatt ctttggtagt atgcaatcgg gtcgtatccg cattattaat 180  
acggctgaag gtagtggagt taaattagca ggtaaattta ccgcagataa cgacctaat 240  
gttaaagccg ataataattca aacagatagt caagtccgtt atgacagtta cgataaagat 300  
ggcagtgaat attacaaaaa ctatcgtggc gggatcacgg ttaataatag tggctctagt 360  
caaacactca ctaaaaccga attaaaaggt aaaaacatca cattagtagc gagtagccat 420  
aatcaaatca aagcctctga tttaatgggg gatgacatca cgttacaagg tgctgattta 480  
actatcgatg gtaaacagct acagcaaaaa gagaccgata ttgataatcg ctgggttctac 540  
tcgtggaaat acgatgtgac taaagagaaa gaacaaatac agcaaattgg tagccaaatt 600  
gatgctaaaa ataatgcgac attaacgcga actaaaggag atgttacctt agacgcg 657

<210> 754  
<211> 622  
<212> DNA  
<213> *Proteus mirabilis*

<400> 754  
attaagcgca aatgaaacag gaaatttagg ctcaatcagt gaatcaaggc gtgcattgca 60  
agatagccaa cgtgaaatta atcaattaat agaacaaaat cgctatcagc aactgcaaga 120

aaaagcggta aatatttcac ctaccccaac tttaattact gagtcagaac actgtttgcc 180  
tataaaaggc gtttatattc aagggtattac ttactttact gagaaggatc tcaattcatt 240  
atctccggtta cctgatcaat gtattaagag tgctgatatt aatcgccctcg taaaagaact 300  
cacacagcgt tatcttcaac atgggttatat taccgcacgt atccaatttt tacgtcctaa 360  
ccaacatggc gaattaggtc tgtatgctat tgaagggttt gttgaacgta ttgaaggggg 420  
tgatcgaggt gttaacacca cactactatt tcctcgaatc aaagggaac cattaaaact 480  
cgctacactc gatcaaggct tagatcaagc taaccgtttg caatcaaata aagtcacagt 540  
ggatattctt cccggtaccg aattgggggg ctctgtcatt aagttgtcta atcaacgaaa 600  
atcaccttgg catctcaata tc 622

<210> 755  
<211> 450  
<212> DNA  
<213> *Proteus mirabilis*

<400> 755  
aaaaatgtag tgtttcagat ttttagcatta ttaagagata gtattttagt taaaagtgat 60  
cgctgttcaa tgcttaattc cattgaagcc agagctccaa ttctggatta taggataatt 120  
gaatttgcac ttaatgaggt tcctgataat tttaaaatta gaaatggaat gaaaaaattc 180  
ctattgaaag atatatcaaa aaaaatatta cctaattgagt ttgattttca gaggaaatta 240  
ggatttaatc taccactagg tatgatgac agagagggaa aatggaagga atttttcggt 300  
gatatattaa attcaaaatc tgatataatt aattattatt ttataactaa aatgtttgat 360  
gagcatttaa gtggtaaaga gcgtgcagat cgtctatttg gcgtagtttt atttctaata 420  
tgggcaaaac ataataaagt atcgctatga 450

<210> 756  
<211> 400  
<212> DNA  
<213> *Proteus mirabilis*

<400> 756  
taaattagct ttagttcttg gtttaggttt atctgttggt gcgggttctg ctttagctgc 60  
agatcaaggc catggtactg ttaaatttgt tgggttcaatc attgatgctc cttgctcaat 120  
tactcctgat actgaaaatc aaacagttcc actaggtcaa atttctactg ctgcattaaa 180  
agatggtggc cgtagtaatt ctctgtgactt taaaatctct ttagaaaatt gtactacaga 240

gacttacaaa actgttcaaa caactttcac tggctctgaa gcaactgaag ttttagaagg 300  
ttcttttaggc attgaaggta tcgctaaaaa tgcagctggt gttatcaccg atgcgggtgg 360  
taaacaaatc aaattaggca cccaagtgc tgctcaaaac 400

<210> 757  
<211> 500  
<212> DNA  
<213> *Proteus mirabilis*

<400> 757  
tggcaccact attgctatgc cttgttgcca gtttagtgac tgcgccaacg atagccagtg 60  
atgtaaaaca agataaaaac atgcatcagc gatttgggtg gctcaatcta caaggaacca 120  
tattagagcc gtcattgtgca atatcagcgg gaagtagtga tcaagtgate ccgctaacga 180  
cggtatctat cccaacgtta gtcactgaag gtcaaggacc gattgaatat ttttctatca 240  
gattaacgga ctgtacgcta attagccaga aagggcaaga agcggataat ccacgtttta 300  
tcgcaacgtt cgatggctct tctaattgaa atggcaactt tgagttatcc ggtgaggcca 360  
aaggtgcttc attagcgata gcggatcgtt atggctcgaca agctattcca ggacaacccc 420  
taccgcccgt tggcattgat tcgcagtcaa tggcattgct gtaccaagct cgaatagtca 480  
aaaataacga tacgcaaaa 500

<210> 758  
<211> 546  
<212> DNA  
<213> *Proteus mirabilis*

<400> 758  
gatggtaatg ctgataataa caaagaactt tataccatta tgtttagtaa gcaatttcct 60  
gactggggat tgagtactta cttaaactat agtcaccaa catattggaa taagccaact 120  
aatgataatt acaacttata gtttagcgaa agcgcggata ttggctggtt taaaaatata 180  
aattttagtc tctccgcttt ccgtaataaa tttaatggca ccaatgataa tggcggttat 240  
atgaatgtca gtatgccttg gggatgatcg gcgaccatca gttacaacac tgcattaat 300  
aagagcggta actctcataa tgctagctat tacgatcgaa ttgatgacaa tagcagttat 360  
cgtgttggcg ctggggtaag tagcaatggt aaaccttcag ccgatgctta ttttatgcat 420  
tatgctgatg cggccttagt caccgccagt gcaagtcata tcaatgggtga atatacctct 480  
gccactttat cgctacaagg tggtgccaca cttacgccga aaggtggagc attacaccgc 540

gttagt

546

<210> 759  
<211> 320  
<212> DNA  
<213> *Proteus mirabilis*

<400> 759  
caatctatgc ctcgcaaacg gatttaacca atccttggca agagcagatc actttaacta 60  
aaaaagggtga tcgcttcgaa gtgaataatc caacgcctta ctatgtgaca ttagtcgatg 120  
gattaaccag tttgaaagga aaaagcttgg atggctttga accattaatg atcgcaccta 180  
aaagtagcgg cacgataaat ctgagtgcctt ccatgttttg tgcttcaccg gtattgagct 240  
acatcaatga ttatggcggg cgccctcaga tgaaattcac ctgtagtggc aatcaatgca 300  
aagtaacaga aacggcagct 320

<210> 760  
<211> 507  
<212> DNA  
<213> *Proteus mirabilis*

<400> 760  
aacagtgggt tagcccaagc aaggcagtgt tggtttttat tctggcaaca tttactggag 60  
gcctgagttc tactgctgtt gctaacttac ctgcaggagc agtaataaga gcgacccccg 120  
ggattgttta tatcaatatt actggaaacg tcatcgctcc acctccttgc ttaatcaatg 180  
acggcaagat gatcgaggtg aattttggcg aagtaatgag tacgcgtatt aatgatagca 240  
attataagca acctatcgaa tataccgcga cttgccaaaa aagaccgact aacgccatga 300  
aagtctatat aacaggtaat gcaacagggt tcgatagtaa tgccctacaa actaatatta 360  
cgggattagg ggtacgcatt ctttatcaag gtaaattatt aggattaggc tcagcggtta 420  
aatttaccta tcccaatttg cctaaactag aagcgatccc tgtgcgtgat aatagagaaa 480  
cactagttgg tggagatttt gttgccca 507

<210> 761  
<211> 451  
<212> DNA  
<213> *Proteus mirabilis*

<400> 761  
ttactaaatt ctacagcagt aatggcggcc gactcgcta atttaaaatt attcggaaca 60

ttattagtgc cacctccttg tgttatcagc aatgacgaac gaattgaggt tttttttggt 120  
aagaacgtcg gtattaataa agttgatggg attaactata ccgaatcggg gaattatacc 180  
ttgggtatgcg acgctaattt aaaaggttgg gatttgggat tatcaattat cggacctaaa 240  
accagtttg atgagggcggc attgcaaacc aatattccag atttaggtat tcatttaact 300  
caagatggta agccttttaa gctaaatgag cgtattggga tttcaccaga ttcgcctccg 360  
gttattcaag ctgttccagt aaaaagaccg ggaagtacat tgcctgaagg ggcatttgaa 420  
gtctcagcca ccttattagc agaataccaa t 451

<210> 762  
<211> 526  
<212> DNA  
<213> *Proteus mirabilis*

<400> 762  
ccggttcata ttgggtctat ctgtatccat agggttaact tcagcggctt ttgcaatacc 60  
ggacaacctc tattttcacg gcatattagt tgatgagcct tgtaccataa aaccgggtga 120  
tgaaaccgtg gtactcgatt ttggcaatat tctgataaa aacctttatg cctataaaag 180  
aacgccaagc aagttatttc aattacgtct gtcagaatgc gatctctcaa tcggtaaaag 240  
cgtcaaaata accttttaaag gagaggaaaa ccaagcaatg gcaggagaag gatttttggc 300  
aataagtccg ggcagccaag cttctggtat tgcggtggga ttagagtctg aaaatggtaa 360  
tgctctacct ataaataaag aaacagacaa gatgtcatta actgcgggtg acactathtt 420  
gaatttttat gcctttattc aaggtgagcc ggatgcgatt gcgaataagt cgattaaacg 480  
tggtcctttt agtgcaatag ccaccttcta tttgaattat gactga 526

<210> 763  
<211> 505  
<212> DNA  
<213> *Proteus mirabilis*

<400> 763  
ccttctaacg ccacttacac ttatgttatt gagcgttggg atccagaaac ctcaggaata 60  
ttaaatcctt gttatgggtg gcctgtgtgt tatgtcacag tgaaccataa acatacagta 120  
aatgggtactg ggggaaatcc tgcatttcag attgctcgaa ttgaaaaact acgtacttta 180  
gctgaagtgc gtgatgtagt acttaaaaat agatcattcc ctattgaagg gcaaaccacc 240  
cacagagggc cttcattaaa ctctaataca gagtgtgtgg gattatttta tcaaccgaat 300



tcaagtggta tatcacctcg aggaaaactc ttaccagggt cactatgcgg tatcgcacca 360  
ccaccagtgg gtgcttgtaa aatatctgaa ggtgcgggtga accttaacta tggatgatatt 420  
gatgaagcta gtttaagtgg tgctaagcgc tctgaaacaa tcaatgtaac ctgtaattta 480  
gcaatgaaag tggtggttat cgcac 505

<210> 764  
<211> 408  
<212> DNA  
<213> Proteus mirabilis

<400> 764  
aacatatgag ggtgtggact aatagaaaca ttggcttttt tacctaaacg gcgtaataac 60  
ccataaactt gttgacggga aattggtccc gttttttgtg ataaaaatac ccattcagaa 120  
tctgattctc tccagttttc tctacttttc aaccagttgc ataaggcttc atattcctca 180  
tcaataatag gttgtgttgt tgaaagccca ccttttaaac gcctgacata gagtattcta 240  
ctttctagat caatatcgct taatgttaaa ttacatagtt cgctaacacg aaaaccatgt 300  
aaaaaacaca ttaaaaacat acagtaatct ctttcgggat acctaccttc cttagcttgc 360  
tttaaaatag cattcacttc aaaacgtgta agaaatttac gttgcttc 408

<210> 765  
<211> 310  
<212> DNA  
<213> Proteus mirabilis

<400> 765  
ttgattttgc gaatatagat gtaaagtctt ctgtaggtaa aaagatccaa aaaaaacgta 60  
aagagctggg ttataccggt atgcagctgg ctaaaaaaat tgggtgtcagc cagcaacagt 120  
tttctcgcta tgaacgaggt atgaacaaaa tagatctcag acatttagtg ttgttagctc 180  
tctattttaa tacacccatt tattggtttt ttgaggattg ctacgtaaaa aagccttcat 240  
taaataataa aggaatagat aagcgcaatt atgttattgc tcaagcaaca cctgatgctt 300  
ttcattattg 310

<210> 766  
<211> 510  
<212> DNA  
<213> Proteus mirabilis

<400> 766  
tggagtatca gagctatttt gtttaagcct ttttttgga atattggact ttattcctat 60

cttgaaaaac ctatatctctt attgggtatc aaaaaagtat ttttaggacg tagagttaga 120  
atcttccctc actctagaat tgaagtgcac ggaaataaat tgtatgagga taatatctct 180  
ataggacagt catttcatat aatatgttca agtaatatta ttatatctga aggtacatta 240  
atctctgcta atgtatctat tactgatact gatcatacat ataaaaatat ttctctaccc 300  
attcatgttc aaaaaactaa tatttctacc acttatattg gtaaaaattg ttttatagga 360  
tatggcggtg ttattcaagc tggaacaaaa ttaggaaata attgtatcgt tggcgcaaac 420  
tcaacaataa aaggctcttt ttctgataat tcaataattg taggttcacc tggacggatt 480  
attaaaaaac tagataaatt atggctgact 510

<210> 767  
<211> 934  
<212> DNA  
<213> *Proteus mirabilis*

<400> 767  
ctatcagcca cctcttcttg aatacagaga atacgcaaag cagaacaacg ttgacccgca 60  
ctatcataag cagaggccat aacgtcagtg accacttggt ccgttaaggc agaagagtcg 120  
acaatcatgg cgtttaagcc acctgtttca gcaattaaag gaacagggcg accttcgcta 180  
tcgagtctac ccgctaaggt tttttgcaaa atgtgggcaa ctctcggtaga gcctgtaaac 240  
atcacaccac gcacgcgttc atctgccact aattgtgcac caatgggtctc cccttgaccc 300  
ggtaagagtt gtaatgcact gcgaggtact cctgcttgat aaaatagttc tacggcttta 360  
aaagcaatca gaggggtttg ctccgcaggt ttggccagta cggtattacc tgccgctaac 420  
gcccgtgcaa tttgtccact aaagatggct aatgggaagt tccaaggact aatacagaca 480  
acagggccta aaggacgatg ggtattatta tcaaaatcat ttgccacttg tgctgagtaa 540  
taataaagaa aatcaattgc ctacgcact tctgcaatag cattactata ggttttgccc 600  
gcttctctta ctaagacccc cattaatggg cccatttgct gttccatcag ctacgccgtg 660  
cggactaaaa atgccgctct ttccgcaggt ggggttgcaa accaaatttc accattttct 720  
tgggcaatat ctaaagcaaa attagcttcg gcggccgctg tttcacgtac tgtaccgacg 780  
acatcgggtg gatctgcccg attgagtata gattgtggtg caatcacttc ttctgcacta 840  
ttacactcac caccaatgag cggatggctg tgaatttttt ccatcgcaga ggtcagtaat 900  
gcactggata atgaggctaa acgatgctca ttag 934

<210> 768  
<211> 501  
<212> DNA  
<213> *Proteus mirabilis*

<400> 768  
gcactagcta ctattctttc tgetgcattt gctggctcat ctatggcgta tgacggaaca 60  
attacattta caggtaaagt tgttgcgcaa acctgctctg tcaatacaaa tgataagaat 120  
ttagcggtaa cattacctac agtatccacc actacattaa atgaaaatgc ggctactgca 180  
ggctcttactc catttactat tcatttaact ggttgcgctg ttggtatgga tgggtgcacaa 240  
agtgtcaaaa catattttga accttcaagt gacattgatg taaccacaca caacttaaaa 300  
aatactgcac aaactaaagc tgataatggt caagttcaat tacttaactc agatgcagca 360  
acaacaatcc agttaggtac tgattctgca acacaagatg tccatccagt acaaatcgac 420  
aatgctaata taaacctccc atattttgct caatattatg caaccggaca atctaccgct 480  
ggggatgtaa aagcaaccgt t 501

<210> 769  
<211> 383  
<212> DNA  
<213> *Proteus mirabilis*

<400> 769  
gaggtactgc atcgcaaagc cagacattga cggttgcaca agagggcttt ttagagtggg 60  
taccccaaga gaatatcttt tttcctgatg ctcaagtgtg ttttaaccaca catattcatt 120  
tagcctcatc agcgaaattt atcggtctggg aaatgcagtg ttttgacgc ccagttttaa 180  
atgagtgggt tgaaactggc aaggtaaaag ggcgcttaaa tttttatggt gatgagagat 240  
taattttaac agagtcaatg cgggttgaag gcttacaaaa acaagctgcc gcaatgcgtg 300  
aatttcctat gtttggctcg ctttatattt atcctgcaac cgatgcatta aaagagatta 360  
ttcaacacca tttagagaag gta 383

<210> 770  
<211> 414  
<212> DNA  
<213> *Proteus mirabilis*

<400> 770  
gcgcttgaac taacctctac agaaaagcca aagttaacct tttgtcttac catggatgag 60  
cgcacaaaaa gtcgcttaaa agtggcttta agtgacgggc aagaagccgg gctatttttg 120

cctcgaggca ccgtacttaa agagggggat attctgctgt cagaagaggg cgatgttgtc 180  
accattgaag cggctaaaga gcaagtatca acggtttata gtgacgatcc attattgctt 240  
gctcgtgttt gttatcactt aggtaaccga catgtaccat tgcaaataga agcgggttgg 300  
tgtcgttatt ttcacgatca tgtattagat gatatggctc gcggccttagg ggctacggtg 360  
gtggttggct tagaaaaata ccaacctgag ccggggggctt atggtgggtc atcc 414

<210> 771  
<211> 500  
<212> DNA  
<213> *Proteus mirabilis*

<400> 771  
gctcagcaga aaccttgtca gattgggttaa gcgcacaaat gaccggaaca ttagccacac 60  
tcgagcttcc tatattgctg caattacaaa cgagtttggc aaaggggtgat agcgatacag 120  
tgaaatattg gtgtgacttt atggtcgcaa gtcgcgaaac caaagagtta aggcaggaag 180  
agcgtcaacc ggggatcget tttccccgtt tacttcctca attaggcatt gaattagacg 240  
atacgttaca acagcgggtt aaacagacgc aattaatggc gtttgcttta gctgccgtgc 300  
attggcatat cgatagtga aagctctgtt gtgcctatgt ttggggctgg ttagaaaaata 360  
cggatgatgtc tggggtaaaa ctggtgccat tagggcaaag cgcagggcaa aaaatgttgt 420  
ttgctctagc tgagcagatc cccgctattg ttgagttatc ggcacattgg ccacaagagg 480  
atattggcag tttacgccag 500

<210> 772  
<211> 560  
<212> DNA  
<213> *Proteus mirabilis*

<400> 772  
gggatcttct ataactatc aaccaaagta ttaccttctt ttgattatga taccgcagga 60  
aaacatatag cccgtgaaga ttccacttgg aatggcaa atgttattgg gcaaccgct 120  
gaggtgactt attcattccc aaaatgggaa ggcaaattta atcaatttgg taataagaat 180  
ccttatgaat ttaatgaatt acaaaaagag catgcaagaa aatctttaga tgcattggtct 240  
gatattgcaa atattaaatt tactgaagtt gctgttggga atgttgatgg aatgaaggct 300  
tctgacgtaa aaacagatat tacttttggg aatatctatg atcccaatgg cacatttcag 360  
gcttatgcaa cattgcctaa tacctatgct tatggaaaag atctttctgg ccaagcatgg 420

tttagtgatt atcattatgc aggtaatact acaccagaat tgggtaatta tggtcgttta 480  
actattatcc atgaaattgg tcatacactg ggtccttatgc atcctgggtga ttataacgca 540  
ggtcagaatg ttccagggtta 560

<210> 773  
<211> 509  
<212> DNA  
<213> *Proteus mirabilis*

<400> 773  
tttctttgat ctaccttggg tccctattta ccttttagtt attactttat ttaatccttg 60  
gttaggatta tttgcacttt gtgggtgccct tatcttattt gctttggcta tccttaatga 120  
atatctatct aaaaatcatt taaaaaagc gaatagtttt gccaatcaag cacaattaat 180  
acaaagtcac catttagaac atccacagac tatcgaagcg atgggaatgc ttagtcaatt 240  
acgtaaacia tggcaaacct ctcatctcaa atacttacia gcacaaacac aagccagtga 300  
taatgcagcc ggtatcaacg ctatcacaaa agtaacacgt atggcattac aatctttaat 360  
gctaggttta gggggatggc ttgctattga taatactatt agtcctggaa tgatgattgc 420  
aggttcaata ctttttaggtc gagcattagc ccctattgag caagtgatca atgtatggaa 480  
aagttgggat agtagtaaag cagcctaca 509

<210> 774  
<211> 576  
<212> DNA  
<213> *Proteus mirabilis*

<400> 774  
aagaacaagt agcaggtaaa gagtatgaaa atatcggggt atcacaattg ctacccaata 60  
tttctgtcaa ttacaaaaat aatcctcgca actggcaacg taaggcttat ccaataaata 120  
tatttcagga taaaataaca acagttgagt atcaaaaacta tcaaagctat tctgtcaacg 180  
cgattattag tcaaccacta tttgactaca ccgcatttag tgaatacaaa gcttctatca 240  
ttaaaacatt attagcagac agtcattatc aaaataaatt ttcagaatta attattcgac 300  
ttatcgataa ttatattcaa gttgcttata cacaagataa attattacta aatcaagcac 360  
agcaagaaat ctatcaaaaa caactagctt caagtcaacg cctatttgag ttaggagaag 420  
gaaccaaaac agatattgct gaaatagaga ctcgtttata tttaacccag tcacaatata 480  
ccgatcttca attagaaatt gaaaaggcta aaaacaaact cagtgcctatg atcggttcac 540

aattgcctac tcatgagcac atcgcaaagc taactg

576

<210> 775  
<211> 626  
<212> DNA  
<213> *Proteus mirabilis*

<400> 775  
ccaacttact tctatctacc tgatggtaaa attggtataa attatatgta tggttggcct 60  
aaacaaccac atagtaatat caccaaaata aattatatat tccctgatta tgataaaaaa 120  
agaaattact caaataaaaa atattcagta acagaaaaag atagaataga atcaataaaa 180  
cataccgcta aagtatatga attgacctat ctttaaggaaa aaaaagaaaa agaaatcgct 240  
tcattaaaat attatagaaa taaatattca ataagtagaa tagctgaatt agaaaaagat 300  
atagaggata tagaaaatag tattatTTTT cacaagaata gtatacatcc gtatTTTTac 360  
aatacacaaa caaccatata tcctcatcaa caagaagtta tttccgatat tcttagtgaa 420  
attgcccata taacacaagc aaagtttggt gcacttaatc cagaattcga tgccgatata 480  
aaatttggtt tttacgatga ttttcatatt agtcatggtt caatagaatt ttcatatacc 540  
accagagggt ttgcaacctt ccctagcaga tattcaacct ctataaaaaa gataaatatt 600  
gatgaacaat accaatactc tggaac 626

<210> 776  
<211> 583  
<212> DNA  
<213> *Proteus vulgaris*

<400> 776  
catcttattg tgggtccaag cctacagcaa tttataaag tattagctta tgagatacga 60  
actttcatcc ccgaggagct catttttagtt gatggcactc cgcttaaaat ttccccagct 120  
ctgcgtaata aaatctacaa tgaattaggt atttcctttt ttgataaaaa aacagcatta 180  
aaagaagggc ttcattgggc gaaagaagat gatgagctta gccaacagat gtctgaatac 240  
cttaatggtg aaaccgtaat ttggattgag agcacactgg aatatcctgt tttatggatt 300  
aacacctata tttcaccttc tttatggatc cgggttccac tcactgaatt aggcgaaaat 360  
ttcttactgc cagtttatcg ccaagcaatt atttttatta ttattgttat tgcctttttc 420  
tggttatata accgttttca aaatcgccca ttaaacgaag tggaatatgc agctcgtcgt 480  
attggtaaag gcgttattcc tccccctatc ccagaatcag gttcatcaga gatgcgttcg 540



atcattcgag catttaatca aatgtcatca ggtattcgct ctt 583

<210> 777  
<211> 383  
<212> DNA  
<213> *Proteus vulgaris*

<400> 777  
cgtaagcctt atgttcgtgg tatgcagcca aactggtgga cgaaactcgg tttctatcgt 60  
ttctacatca cccgtgaagg aacttgtcta ccacaacttt gggttcagtct ggttggtactg 120  
ttcgggtgtat ttgcactgaa aaatggacca gaaagttggg cgggattcgt tggattccta 180  
agtaacccaa tactgatgct gattaatatt gtgaccetta tcgcaacggg attccatacg 240  
gccacttggt ttaagcttgc accgaaagcc gttaatatcg tcgttaaaga tgaaaaatta 300  
ccacaagagc ctatcggttcg tggtttatgg ggtctaacca tcgtcgtgac tgcgttatt 360  
ctggcagtggt cgctaattgt tta 383

<210> 778  
<211> 345  
<212> DNA  
<213> *Proteus vulgaris*

<400> 778  
aatcagaatc aacttcctaa gcgctctgat gaacctatct tctggggatt atttggtgca 60  
ggtggtatgt ggagtgcgat tgtctctcca gcaattatta tectgctcgg tattctaate 120  
ccgatgggta ttgcgccaga agcatttact tacgatcgta tcatggcatt tagccaaggt 180  
tttattggtc gtattttctt actgctaattg attattctgc cagtttggtg tgcattacac 240  
cgtattcacc atacgttgca ccattttaaa gtgcatgtac ctgctagtaa ttgggtatct 300  
tatggtgctg cagcaattat tagcgttatc gcaattattg gtggt 345

<210> 779  
<211> 534  
<212> DNA  
<213> *Proteus vulgaris*

<400> 779  
gcgaagtaga agagaaagca cagcgcgaag cacaagaaaa agcacagcgc gcagctgaag 60  
aaaaagcaaa acgtgaagca caagaggcca agaaacaggc cgaagaaaaa gcgaaacgtg 120  
aagctgaaga agcaaaacgt gaagcagcgg aattagctaa gcgcgaagca gcggaaaaaa 180

ataaagtgaa acaaaacgat aaaccaaaaag ctgatgtagc agatcaggat aaagcacgtc 240  
gcaatgctga actggctgaa ctgaaacgta aaacagaaga agcacagcgc cttaaagttg 300  
aagaagagac gcgcgctgca gcagaaaaag cacgccgctt agctgaagaa aacgctgaaa 360  
aatggactgc tgaacctaaag gctcctgaaa cagaaagcgc ggactatcat gtaactacat 420  
ctcgttatgc tcgtgatgca gaagatgaaa gcgatgcaga agtagaaggt gatcgccgcc 480  
gcggtcgtac tgctaaagca cctcgtgcta agaaaaataa ccgccactct gaaa 534

<210> 780  
<211> 582  
<212> DNA  
<213> *Proteus vulgaris*

<400> 780  
agctgatggt gttgttggtg gtgctggtat ccttggtatt atgacagcaa ttaaccttgt 60  
agaacgtggt ttatctggtg taattgttga gaaaggtaat atcgcggtg agcaatcttc 120  
gagattctat ggtcaggcaa ttagctataa aatgccagat gaaacgttct tattacacca 180  
tttgggcaaa catcgctggc gtgaaatgaa tgcgaaagta ggtattgata ctacttatcg 240  
tacacaaggc cgcgttgaag ttctcttga tgaagaagat ttagttaacg taagaaaatg 300  
gattgatgaa agaagtaaaa atgttggctc agatattcca tttaaaacca gaattattga 360  
aggtgctgaa ttaaataaac gtcttcgtgg cgcgacaaca gattggaaaa ttgctggctt 420  
tgaagaagat tctggtagct tcgatccaga agttgcaacc ttcgttatgg ctgaatacgc 480  
taaaaaaatg ggtgttagaa ttacactca atgcgcggct cgtggcttag aaacacaagc 540  
tggtgtaatt tctgacgttg taacagagaa aggtgcaatc aa 582

<210> 781  
<211> 553  
<212> DNA  
<213> *Proteus vulgaris*

<400> 781  
ctaaatatgg cgcaggaaca aattactttg atatatccaa agagttatta ccgaagtggg 60  
cttggtatat tgccaatgct tcattgatct ttgtattata tatattgac tatgcttata 120  
tctctgcggc gggttctatt atctatgaag catcactggt atatggtatt aattttaatc 180  
tgagagctat attttttatt ttacgatag cccttggtgc tacaatatgg tggggtggcg 240  
cttggtgctag ccgtttaacc tcaattttct tattcattaa gatagtatta tttatattag 300

cgtttttcggg tttgtttttt aaagcaaaag gtgatttatt atttagtgca acttttgcag 360  
gaaaaagcca attatatctt tctcctttta tttttattat cattccttat gccattacct 420  
catttggata tcatggtaat gtttgtagtc tttataagct ttataatcaa aacgaaagaa 480  
aagtagttaa gagttgtatc attgggtgct tgtagcatt agtcatctat ttactttgga 540  
tgattggcac tat 553

<210> 782  
<211> 260  
<212> DNA  
<213> *Proteus vulgaris*

<400> 782  
gttcataggc ttcacgtagt tcagcacagt ttttaacaga gtttaaattgg ctaacagggg 60  
accaaacacg agaaagctta tcgcctgctt ctgctaattg ttggcaaagg ttatcctgag 120  
taaattgagt attatcagcc agtaattttt caactgtttc acgatatgtg gttaaaactt 180  
cgtttagtgc aggaacgaca tggtctgggt tgataaggga aaatgcagggt aatcccgttg 240  
tgctaagtaa tggatttgac 260

<210> 783  
<211> 199  
<212> DNA  
<213> *Proteus vulgaris*

<400> 783  
tggctgaaaa tgctgtaaat gatattctaa aatgggttaga aaccagtta caacgtaacg 60  
aaggtataaa aatcgatact attgcgaaca aaagtgggta ttcaaaatgg cacttacaac 120  
gcatatttaa agatttttaa ggctgcacat taggcgaata tgtccgcaaa cgctgcttat 180  
tagaagcggc taaatcatt 199

<210> 784  
<211> 220  
<212> DNA  
<213> *Proteus vulgaris*

<400> 784  
gaaaggactt aaacttaact atccagagtc tgctgcatta attagttgcg cgattatgga 60  
agggtgcaaga gaaggtaaaa cagtggctca attaatgagt gaagggcgtg ctgtattaac 120  
agcagaacaa gttatggaag gcattcctga gatgatcaaa gacattcagg tggaatgcac 180  
attccctgat ggtacaaaac ttgtttctat tcacgacct 220

<210> 785  
<211> 503  
<212> DNA  
<213> *Pseudomonas aeruginosa*

<400> 785  
actgacgctt atttgattga cactccattt acagctaaag atactgaaaa gttagttact 60  
tggtttgtag agcgcggtta taaaataaaa ggcagtatct cctctcattt tcatagcgac 120  
agcacgggag gaatagagtg gcttaattct caatctattc caacatatgc atctgaatta 180  
acaaatgaac ttcttaaaaa agacggtaag gtacaagcta aaaattcatt tagcggagcc 240  
agctattggg tagttaagaa aaagattgaa attttttatc ctggcccagg gcacactcca 300  
gataacgtag tggtttggct acctgaacat agagttttgt ttggtggttg ttttgttaaa 360  
ccgtatgggc taggtaattt gggtgacgca aatttagaag ctggccaaa gtctgcaaaa 420  
ttattagtgt ccaaatatgg taaggcaaaa ctggttggtc caagtcacag tgaagttgga 480  
gatgcatcac tcttgaaacg tac 503

<210> 786  
<211> 348  
<212> DNA  
<213> *Staphylococcus epidermidis*

<400> 786  
atggataata aaacgtatga aatatcatct gcagaatggg aagttatgaa tatcatttgg 60  
atgaaaaaat atgcaagtgc gaataatata atagaagaaa tacaaatgca aaaggactgg 120  
agtccaaaaa ccattcgtag acttataacg agattgtata aaaagggatt tatagatcgt 180  
aaaaaagaca ataaaatttt tcaatattac tctctttagt aagaaagtga tataaaatat 240  
aaaacatcta aaaactttat caataaagta tacaaaggcg gtttcaattc acttgtctta 300  
aactttgtag aaaaagaaga tctatcacia gatgaaatag aagaattg 348

<210> 787  
<211> 530  
<212> DNA  
<213> *Pseudomonas aeruginosa*

<400> 787  
tagctcgtgc atcaaaggaa tatcttccag catcaacatt taagatcccc aacgcaatta 60  
tcggcctaga aactgggtgc ataaagaatg agcatcaggt tttcaaattg gacggaaagc 120

caagagccat gaagcaatgg gaaagagact tgaccttaag aggggcaata caagtttcag 180  
ctgttcccgt atttcaacaa atcgccagag aagttggcga agtaagaatg cagaaatacc 240  
ttaaaaaatt ttcctatggc aaccagaata tcagtgggtg cattgacaaa ttctgggttg 300  
aaggccagct tagaatttcc gcagttaatc aagtgagggt tctagagtct ctatatattaa 360  
ataaattgtc agcatctaaa gaaaaccagc taatagtaaa agaggctttg gtaacggagg 420  
cggcacctga atatctagtg cattcaaaaa ctgggttttc tgggtgtggga actgagtcaa 480  
atcctgggtg cgcattgggtg gttgggtggg ttgagaagga gacagagggt 530

<210> 788  
<211> 322  
<212> DNA  
<213> *Proteus vulgaris*

<400> 788  
acactggctg aattaagtgc tgctacattg caatatagcg ataatacagc aatgaataag 60  
atattagatt atttaggcgg tccagccaaa gtcactcaat ttgcacgttc aattaatgat 120  
gtcacttatt gccttgatcg taaagagcct gaattaaata cagcaattca tgggtgatcct 180  
cgtgatacta cttctccaat tgcgatggct aaaagtcttc aagcactgac attagggcat 240  
gcactaggtc aatctcagcg tcaacaactt gtgacttggt taaaaggtaa tacaacgggt 300  
gataacagta ttaaagcggg tt 322

<210> 789  
<211> 625  
<212> DNA  
<213> *Klebsiella oxytoca*

<400> 789  
ttatctgcaa cactgatttc cgctctgctg gcgttttccg ccccggggtt ttctgccgct 60  
gataatgtcg cggcgggtgg ggacagcacc attaaaccgc tgatggcaca gcaggatatt 120  
cccgggatgg cggttgccgt ctccgtaaag ggtaagccct attatttcaa ttatggtttt 180  
gccgatattc aggcaaaaca gccggtcact gaaaatacac tatttgagct cggatctgta 240  
agtaaaaactt tcacagggtg gctgggtgcg gtttctgtgg cgaaaaaaga gatggcgctg 300  
aatgatccgg cggcaaaata ccagccggag ctggctctgc cgcagtggaa ggggatcaca 360  
ttgctggatc tggctaccta taccgcaggc ggactgccgt tacagggtgcc ggatgcggta 420  
aaaagccgtg cggatctgct gaatttctat cagcagtggc agccgtcccg gaaaccgggc 480

gatatgcgtc tgtatgcaaa cagcagtatc ggcttgtttg gtgctctgac cgcaaacgcg 540  
 gcgggggatgc cgtatgagca gttgctgact gcacggatcc tggcaccgct ggggttatct 600  
 cacaccttta ttactgtgcc ggaaa 625

<210> 790  
 <211> 482  
 <212> DNA  
 <213> Staphylococcus aureus

<400> 790  
 gaaaattcac gtatgtcatg gaatcataag cattaccctt ttgatgcttg gaataaggaa 60  
 caagatttaa atacagcaat gcaaaattca gttaattggt acttcgaacg tattagcgat 120  
 caaataccaa agaactatac tgcgactcaa ctcaagcaat taaattatgg taataaaaat 180  
 ttgggaagtt ataaaagcta ttggatggaa gatagtttga aaatatctaa tcttgaacaa 240  
 gtaatagttt ttaaaaatat gatggaacaa aataaccatt ttagtaaaaa agcaaagaat 300  
 caattatctt cttcattatt gattaagaaa aatgaaaagt atgaactgta tgggaaaaca 360  
 ggtacaggta tagtaaacgg gaagtataat aatgggtggt ttgtaggtta cgtaattaca 420  
 aatcatgata agtattattt tgctacacat ttatcagatg gaaagccatc tgggaaaaat 480  
 gc 482

<210> 791  
 <211> 703  
 <212> DNA  
 <213> Pseudomonas aeruginosa

<400> 791  
 acgttctgac tggaggaagt ttttcagcga atttcaagcc aaaggcacga tagttgtggc 60  
 agacgaacgc caagcggatc gtgccatggt gggtttttgat cctgtgcgat cgaagaaacg 120  
 ctactcgctt gcatcgacat tcaagatacc tcatacactt tttgcacttg atgcaggcgc 180  
 tgttcgtgat gagttccaga tttttcgatg ggacggcggt aacaggggct ttgcaggcca 240  
 caatcaagac caagatttgc gatcagcaat gcggaattct actgtttggg tgtatgagct 300  
 atttgcaaag gaaattggtg atgacaaagc tcggcgctat ttgaagaaaa tcgactatgg 360  
 caacgccgat ccttcgacaa gtaatggcga ttactggata gaaggcagca ttgcaatctc 420  
 ggcgcaggag caaattgcat ttctcaggaa gctctatcgt aacgagctgc cttttcgggt 480  
 agaacatcag cgcttgggtca aggatctcat gattgtggaa gccggtcgca actggatact 540



gcgtgcaaag acgggctggg aaggccgtat gggttggtgg gtaggatggg ttgagtggcc 600  
gactggctcc gtattcttcg cactgaatat tgatacgcca aacagaatgg atgatctttt 660  
caagagggag gcaatcgtgc gggcaatcct tcgctctatt gaa 703

<210> 792  
<211> 758  
<212> DNA  
<213> *Klebsiella pneumoniae*

<400> 792  
tcacgctgtt gttaggaagt gtgccgctgt atgcgcaaac ggcggacgta cagcaaaaac 60  
ttgccgaatt agagcggcag tcgggaggca gactgggtgt ggcattgatt aacacagcag 120  
ataattcgca aatactttat cgtgctgatg agcgctttgc gatgtgcagc accagtaaag 180  
tgatggccgc ggccgcggtg ctgaagaaaa gtgaaagcga accgaatctg ttaaatacagc 240  
gagttgagat caaaaaatct gaccttgta actataatcc gattgcggaa aagcacgtca 300  
atgggacgat gtcactggct gagcttagcg cggccgcgct acagtacagc gataacgtgg 360  
cgatgaataa gctgattgct cacgttggcg gcccggttag cgtcacccgc ttcgcccgc 420  
agctgggaga cgaaacgttc cgtctcgacc gtaccgagcc gacgttaaac accgccattc 480  
cgggcgatcc gcgtgatacc acttcacctc gggcaatggc gcaaactctg cggaatctga 540  
cgctgggtaa agcattgggc gacagccaac gggcgcagct ggtgacatgg atgaaaggca 600  
ataccaccgg tgcagcgagc attcaggctg gactgcctgc ttcctgggtt gtgggggata 660  
aaaccggcag cggtgactat ggcaccacca acgatatcgc ggtgatctgg ccaaagatc 720  
gtgcgccgct gattctggtc acttacttca cccagcct 758

<210> 793  
<211> 680  
<212> DNA  
<213> *Streptococcus pneumoniae*

<400> 793  
cggaactgta taatcccttg aattccgtag aagattctac taatcggcgc gatactgtct 60  
tgcagaatat ggttgcagca ggatatattg ataaaaacca agaaaccgaa gctgctgaag 120  
ttgatatgac ttcgcaattg cacgataagt atgaaggaaa aatctcagat taccgttacc 180  
cctcttattt tgatgcggtg gttaatgaag ctgtttccaa gtataatcta acagaggaag 240  
agattgtcaa taatggctac cgcatttaca cagagctgga ccaaaactac caagcaaata 300

tgcagattgt ttatgaaaac acatcgctat ttccgagggc agaggatgga acgtttgctc 360  
aatcaggaag tgtagctctc gaaccgaaaa cagggggagt tcgtggagtt gtcgggtcaag 420  
ttgctgacaa tgataaaact ggattccgga atttcaacta tgcaacccaa tcaaagcgta 480  
gtcctgggtc tacaattaag ccttttagttg tttatacacc agcagttgaa gcaggctggg 540  
ctttgaataa gcagttggat aaccatacca tgcagtatga tagctataag gttgataact 600  
atgcagggat caaaacaagt cgagaagttc ctatgtatca atccttggca gaatcgctta 660  
atctacctgc tgttgccact 680

<210> 794  
<211> 669  
<212> DNA  
<213> *Klebsiella pneumoniae*

<400> 794  
cgtaggcatg atagaaatgg atctggccag cggccgcacg ctgaccgcct ggcgcgccga 60  
tgaacgcttt cccatgatga gcacctttaa agtagtgctc tgcggcgagc tgctggcgcg 120  
ggtggatgcc ggtgacgaac agctggagcg aaagatccac tatcgccagc aggatctggt 180  
ggactactcg ccggtcagcg aaaaacacct tgccgacggc atgacggtcg gcgaactctg 240  
cgccgcgcgc attaccatga gcgataacag cgccgccaat ctgctactgg ccaccgtcgg 300  
cggccccgca ggattgactg cctttttgcg ccagatcggc gacaacgtca cccgccttga 360  
ccgctgggaa acggaactga atgaggcgct tcccggcgac gcccgcgaca ccactacccc 420  
ggccagcatg gccgcgaccc tgcgcaagct gctgaccagc cagcgtctga gcgcccgttc 480  
gcaacggcag ctgctgcagt ggatggtgga cgatcgggtc gccggaccgt tgatccgctc 540  
cgtgctgccg gcgggctggt ttatcgccga taagaccgga gctggcgagc ggggtgcgcg 600  
cgggattgtc gccctgcttg gcccgataa caaagcagag cgcattgtgg tgatttatct 660  
gcgggatac 669

<210> 795  
<211> 551  
<212> DNA  
<213> *Salmonella typhimurium*

<400> 795  
cacgatagtt gtggcagacg aacgccaagc ggatcgtgcc atgttggttt ttgatcctgt 60  
gcgatcgaag aaacgctact cgctgcacg gacattcaag atacctcata cactttttgc 120

acttgatgca ggcgctgttc gtgatgagtt ccagatTTTT cgatgggacg gcgttaacag 180  
gggctttgca ggccacaatc aagaccaaga tttgcgatca gcaatgcgga attctactgt 240  
ttgggtgtat gagctatTTG caaaggaaat tggatgatgac aaagctcggc gctatTTGaa 300  
gaaaatcgac tatggcaacg ccgatccttc gacaagtaat ggcgattact ggatagaagg 360  
cagccttgca atctcggcgc aggagcaaat tgcatttctc aggaagctct atcgtaacga 420  
gctgcccttt cgggtagaac atcagcgctt ggtcaaggat ctcatgattg tggaagccgg 480  
tcgcaactgg atactgcgtg caaagacggg ctgggaaggc cgtatgggtt ggtgggtagg 540  
atgggttgag t 551

<210> 796  
<211> 557  
<212> DNA  
<213> Staphylococcus haemolyticus

<400> 796  
agcttttgtt ttatatTTct attggtatta ttttttaggt acatattaaa acgctatTTt 60  
aattatatgt taaattataa agtttggtat ctaactcttc ttgcaggatt aattcctttc 120  
attcctatta aattctctct ttttaaattt aataatgtga ataataaagc gccacagtt 180  
gaaagtaagt cacacgactt gaaccataac ataaatacca ccaaacctat tcaagagttc 240  
gcaacagata tccataagtt taattgggat tcaattgata atatctgcac agttatTTgg 300  
atagtttttag ttattatTTt aagtttttaa tttttgaaag ccttattata tcttaaatat 360  
ttaaagaaac agtcacttta tctaaacgaa aatgaaaaaa ataaaataga tacgatactt 420  
ttcaaccatc aatataaaaa aatatTTgtg attcgaaaag cagagactat tcaatctcca 480  
ataactTTTT ggtatgggaa atatattatt ttgattccta gttcatatTT taaaagtgt 540  
attgacaaaa gactaaa 557

<210> 797  
<211> 558  
<212> DNA  
<213> Pseudomonas aeruginosa

<400> 797  
ttgacgaagg cgtttatgtt catacttcgt ttgaggaagt taacggctgg ggcgtggttc 60  
ctaaacacgg cttggtggtt cttgtaaata ctgacgctta tttgattgac actccattta 120  
cagctaaaga tactgaaaag ttagttactt ggtttgtaga gcgcggctat aaaataaaag 180

gcagtatctc ctctcatttt catagcgaca gcacgggcgg aatagagtgg ctttaattctc 240  
aatctattcc aacatatgca tctgaattaa caaatgaact tcttaaaaaa gacggtaagg 300  
tacaagctaa aaattcattt agcggagcca gctattgggt agttaagaaa aagattgaaa 360  
ttttttatcc tggcccaggg cacactccag ataacgtagt ggtttggcta cctgaacata 420  
gagttttgtt tgggtgggtgt tttgttaaac cgtatgggtc aggtaatttg ggtgacgcaa 480  
atttagaagc ttggccaaag tctgccaaat tattagtgtc caaatatggt aaggcaaaac 540  
tggttggtcc aagtcaca 558

<210> 798  
<211> 421  
<212> DNA  
<213> *Staphylococcus aureus*

<400> 798  
ttaaagaatg gaaccaagat caaaatttaa attcttcaat gaaatattca gtaaattggt 60  
attacgaaaa tttaaacaaa catttaagac aagatgaggt taaatcttat ttagatctaa 120  
ttgaatatgg taatgaagaa atatcaggga atgaaaatta ttggaatgaa tcttcattaa 180  
aaatttctgc aatagaacag gttaatttgt tgaaaaatat gaaacaacat aacatgcatt 240  
ttgataataa ggctattgaa aaagttgaaa atagtatgac ttgaaacaa aaagatactt 300  
ataaatatgt aggtaaaact ggaacaggaa tcgtgaatca caaagaagca aatggatggt 360  
tcgtagggtta tgttgaaacg aaagataata cgtattattt tgctacacat ttaaaaggcg 420  
a 421

<210> 799  
<211> 260  
<212> DNA  
<213> *Klebsiella oxytoca*

<400> 799  
gacaataccg cgatgaataa gatgattagc taccttggcg gaccggaaaa ggtgaccgca 60  
ttcgcccaga gtatcgggga tgtcactttt cgtctcgatc gtacggagcc ggcgctgaac 120  
agcgcgattc ccggcgataa gcgcgatacc accaccccgt tggcgatggc cgaaagcctg 180  
cgcaagctga cgctgggcaa tgcgctgggc gaacagcagc gcgccagtt agtgacgtgg 240  
ctaaaaggca ataccaccgg 260

<210> 800

<211> 605  
<212> DNA  
<213> Streptococcus pyogenes

<400> 800  
aatcatcctc gtggctttga tcagcattta aaactactgt aataaccctc atttgatttt 60  
cgacactagt agctacaaaa gaagcaccgg cttttttaga ataaccaaca aaaagaccat 120  
ccacgccttc tcgataacaa ggcatgcctt taagcatgta attataactg taaatggttt 180  
gtccagcaaa aatagtggag gatttgctag ataatttcag tacttctgga aattctaata 240  
agagatgcct ggcaataaca gctaaatcag tggcgcaaaa acaattttca tcatctgggt 300  
ctgtattagg ataagtatta gctcctaaaa aatggttagt taagccagtt gaattgacga 360  
cctttgcacg ggaaatgccc cattgtctta attgtttttt cattttgtca acaaatttgg 420  
gttcggttcc gcctatTTTT tcagctaaag caatagcggg gctattggcg ttattaacaa 480  
ctaacgcact taaaagttct ttaacggtat attttctctt atcaagagga acattactaa 540  
tagtatagtt tgtagtgagt tcataagggg agttagaaat agttacagga ctatcccaat 600  
ttagc 605

<210> 801  
<211> 713  
<212> DNA  
<213> Staphylococcus aureus

<400> 801  
tacagtcatt tcacgcaaac tgttggccac tatgagttaa agcttgctga aggttatgaa 60  
acacatttag tgggaataaa gaacaataat aacgaggtca ttgcagcttg cttacttact 120  
gctgtacctg ttatgaaagt gttcaagtat ttttattcaa atcgcgggtcc agtgatcgat 180  
tatgaaaatc aagaactcgt acactttttc tttaatgaat tatcaaaata tgttaaaaaa 240  
catcgttgtc tatacctaca tatcgatcca tatttaccat atcaatactt gaatcatgat 300  
ggcgagatta caggtaatgc tggtaatggg tggttctttg ataaaatgag taacttagga 360  
tttgaacata ctggattcca taaaggattt gatcctgtgc tacaaattcg ttatcactca 420  
gtgttagatt taaaagataa aacagcagat gacatcatta aaaatatgga tggacttaga 480  
aaaagaaaca cgaaaaaagt taaaaagaat ggtgttaaag taagatatatt atctgaagaa 540  
gaactaccaa ttttttagatc attcatggaa gatacgtcag aatcaaaagc ttttgctgat 600  
cgtgatgaca agtttttatta caatcgctta aaatattaca aagaccgtgt gttagtgcct 660

ttagcgtata tcaattttga tgaatatatt aaagaactaa atgaagagcg tga 713

<210> 802  
<211> 715  
<212> DNA  
<213> Staphylococcus aureus

<400> 802  
agttgtagtt gtcgggtttg gtatatatatt ttatgcttcc aaagataaag aaattaataa 60  
tactattgat gcaattgaag ataaaaatatt caaacaagtt tataaagata gcagttatat 120  
ttctaaaagc gataatggtg aagtagaaat gactgaacgt ccgataaaaa tatataatag 180  
tttaggcgtt aaagatataa acattcagga tcgtaaaata aaaaaagtat ctaaaaaataa 240  
aaaacgagta gatgctcaat ataaaattaa aacaaactac ggtaacattg atcgcaacgt 300  
tcaattttaat ttgtttaaag aagatggtat gtggaagtta gattgggatc atagcgtcat 360  
tattccagga atgcagaaag accaaagcat acatattgaa aatttaaaat cagaacgtgg 420  
taaaatttta gaccgaaaca atgtggaatt ggccaatata ggaacagcat atgagatagg 480  
catcgttcca aagaatgtat ctaaaaaaga ttataaagca atcgctaaag aactaagtat 540  
ttctgaagac tatatcaaac aacaaatgga tcaaaattgg gtacaagatg ataccttcgt 600  
tccacttaaa accgttaaaa aaatggatga atatttaagt gatttcgcaa aaaaatttca 660  
tcttacaact aatgaaacag aaagtcgtaa ctatcctcta ggaaaagcga cttca 715

<210> 803  
<211> 360  
<212> DNA  
<213> Staphylococcus haemolyticus

<400> 803  
gccaataagc aagttgaaat atctatggct gaatgggatg ttatgaatat aatatgggat 60  
aaaaaatcag tatcagctaa tgaaattgta gttgaaattc aaaaatataa agaagttagc 120  
gataaaaacga ttagaacatt aatcacaaga ctatataaaa aagagattat aaaacgatac 180  
aatcagaga atatttatatt ttactcatca aatattaaag aagacgatat taaaatgaaa 240  
actgctaaaa cctttcttaa taaactgtat ggaggggaca tgaaaagttt agtgctgaat 300  
tttgcgaaaa atgaagaatt aaataacaaa gaaattgaag aattgcgaga cattttaaat 360

<210> 804  
<211> 300  
<212> DNA



<213> Pseudomonas aeruginosa

<400> 804

catgcgtgta aatcatcgtc gtagagacgt cggaatggcc gagcagatcc tgcacggttc	60
gaatgtcgta accgctgcgg agcaaggccg tcgcgaacga gtggcggagg gtgtgcggtg	120
tggcggggctt cgtgatgcct gcttggtcta cggcacgttt gaaggcgcgc tgaaaggtct	180
ggtcatacat gtgatggcga cgcacgacac cgctccgtgg atcggtcgaa tgcgtgtgct	240
gcgcaaaaac ccagaaccac ggccaggaat gcccggcgcg cggatacttc cgctcaaggg	300

<210> 805

<211> 500

<212> DNA

<213> Streptococcus pneumoniae

<400> 805

tgaggaaggt agtaaggga acaatatcaa actgaccatt gatttggcct tccaagatag	60
cgtggatgct ttactgaaaa gttatttcaa ttctgagcta gaaaatgggt gagccaagta	120
ttctgaaggt gtctatgcag tcgcccttaa cccaaaaaca ggtgcgggtt tgtctatgtc	180
agggattaaa catgacttga aaacaggaga gttgacgcct gattccttgg gaacggtaac	240
caatgtcttt gttccagggt cggttggtcaa ggcggcgcacc atcagctccg gttgggaaaa	300
tggagtctta tcagggaacc agaccttgac agaccaaccg attgtcttcc aagggttcagc	360
tccgattaat tcttgggtata ctcaagccta cgattcattc ccgattacag ctgtggaggc	420
cttggagtat tcttctaata cctatatggg tcaaacgggt ttgggcatta tgggtcagac	480
ctatcaaccc aatatgtttg	500

<210> 806

<211> 565

<212> DNA

<213> Staphylococcus epidermidis

<400> 806

tagcaataca atcgcacata cattaataga gaaaaagaaa aaagatggca aagatatcca	60
actaactatt gatgctaaag ttcaaaagag tattttataac aacatgaaaa atgattatgg	120
ctcagggtact gctatccacc ctcaaacagg tgaattatta gcacttgtaa gcacaccttc	180
atatgacgtc tatccattta tgtatggcat gagtaacgaa gaatataata aattaaccga	240
agataaaaaa gaacctctgc tcaacaagtt ccagattaca acttcaccag gttcaactca	300
aaaaatatta acagcaatga ttgggttaaa taacaaaaca ttagacgata aaacaagtta	360

taaaatcgat ggtaaagggt ggcaaaaaga taaatcttgg ggtggttaca acgttacaag 420  
atatgaagtg gtaaatggta atatcgactt aaaacaagca atagaatcat cagataacat 480  
tttctttgct agagtagcac tcgaattagg cagtaagaaa tttgaaaaag gcatgaaaaa 540  
actaggtggt ggtgaagata tacca 565

<210> 807  
<211> 524  
<212> DNA  
<213> Streptococcus pneumoniae

<400> 807  
tgaagatggc agcaagagct tgctgggaac ttctggaatg gagagttcct tgaacagtat 60  
tcttgcaggg acagacggca ttattaccta tgaaaaggat cgtctgggca atattgtacc 120  
cggaacagaa ctggtatcgc aacaaactgt ggatggcaag gatgtttata caacattgtc 180  
tagtccgcta caatctttca tggaaactca gatggatgcc tttctagaaa aagtaaaagg 240  
taagtatatg accgcgacct tggtcagtgc aaagaccggt gaaattctcg ctaccacca 300  
acgacctacc tttaatgcag atactaaaga aggaatcact gaggactttg tttggcgtga 360  
tattctttat caaagtaact atgaaccagg atcagccttt aaggtcatga tgtagcttc 420  
ttctattgat aataatacct tcccaagtgg agaatacttc aatagcagtg aattcaaaat 480  
agcggatgcg acgactcgag attgggatgt taatgagggt ttga 524

<210> 808  
<211> 715  
<212> DNA  
<213> Staphylococcus aureus

<400> 808  
agagatgaat gcaggaacag ttttagatcc acaaatgata aaaaatgaag atgtcagtga 60  
aaaagagtat gcagcagttt ctcagcaact ttccaaatta ccaggtgtta acacgtctat 120  
ggattgggat agaaaatata catatggcga tactttaaga ggtatatctg gagatgtatc 180  
gacacctgct gaaggtattc caaagaatt gacagaacat tacttatcca aaggatattc 240  
acgcaatgat cgtgttggaa aatcttacct agaatatcaa tatgaagatg tattgcgtgg 300  
taagaagaaa gaaatgaaat acacaacgga caaatctggt aaagttacat cttcagaagt 360  
gttaaatcct ggcgctcgcg gtcaagattt gaaattaacg atcgatatag atcttcaaaa 420  
agaagtagaa gcattattag ataaacaaat taagaagctt cgcagtcaag gtgccaaaga 480

tatggataat gcaatgatgg ttgtacaaaa tcctaaaaat ggagacattc ttgcgcttgc 540  
cggaagcag attaataaga gtggtaaaat gactgattat gacattggta cgtttacttc 600  
tcaatttgcg gttggatctt ctgtaaaagg tggaacatta ttagccgggt atcagaataa 660  
agctatcaaa gttggagaaa caatggtcga tgaaccatta catttccaag gtggt 715

<210> 809  
<211> 623  
<212> DNA  
<213> Enterococcus faecalis

<400> 809  
caaacaagaa ttagccgaag cgaagaaaac agctactaca tttttaaacg tattgtcaaa 60  
acaggaattt gataagttac cgtccgttgt tcaagaagct agcttaaaga aaaatggcta 120  
tgatactaaa tctgttggtg aaaaatacca agcaatttat tcagggattc aagcagaagg 180  
agtcaaagct agtgatgttc aagtcaaaaa ggcgaagac aatcaatata catttaccta 240  
taaattatcg atgagcactc ctttaggcga aatgaaagat ttgtcttata aatcaagtat 300  
cgccaagaaa ggcgatacct accaaatcgc ttggaagccg tctttaattt ttccagatat 360  
gtcaggaaat gataaaattt cgattcaagt agataatgcc aaacgtggag aaattgtcga 420  
tcgtaatggt agtgggctag caattaacaa agtgtttgac gaagtgggag tagtgccctgg 480  
caaactcggg tctggcgcag aaaaaacagc caatatcaaa gcttttagtg ataagttcgg 540  
cgtttctggt gatgaaatca atcaaaagtt aagccaagga tgggtccaag cagactcctt 600  
tgtaccaatc acagttgctt ctg 623

<210> 810  
<211> 660  
<212> DNA  
<213> Enterococcus faecium

<400> 810  
tacagatgca gacgggtgtag agaaaaaagt tctgatcgaa catgaagttc aaaatggcaa 60  
agatatcaaa ttgacaatcg atgcgaaggc acaaaaaaca gcttttgaca gtctaggagg 120  
aaaagctgga tcaactgttg cgacaacgcc aaaaaccggg gatcttcttg cgcttgctag 180  
ctctccaagc tatgatccaa acaaaatgac aaacgggatc tcacaagaag attacaaagc 240  
ttatgaagaa aatcctgaac agccattcat cagccgattt gcgacagggt atgctcctgg 300  
atctacgttt aaaatgatta cagcagcaat cgggtctcgac aacggcacta tcgatccaaa 360

tgaagtgttg acgatcaacg ggcttaaagt gcaaaaagac agttcttggg gatcttatca 420  
agtaacgcgt gtcagtgatg tatcacaagt agacttaaaa actgctttga tctattccga 480  
taatatatat acggcccaag aaacgttgaa aatgggtgag aaaaaatttc gtacaggctt 540  
agataaattc atttttggtg aagaccttga ttgccaatt agtatgaatc cagcacaat 600  
ttctaataa gataagctta actcagatat cttgctagct gatactggat atggacaggg 660

<210> 811  
<211> 522  
<212> DNA  
<213> *Enterococcus faecalis*

<400> 811  
gccggtgtat cactaaagga aaaaacagct tctctatatg aaggaagcca agtggtaaaa 60  
gctaagcgag gatcaatttt agatcgatat ggtaatccaa ttgcagaaga tgctacttcc 120  
tattcgttat atgtcgtatt atcaaaaaaa tatacgggac aaaataatga aaagctatac 180  
gcggagaaaa aagacttcga tgatattgct gaaatttttag cgaaatatac caaactagac 240  
aaaaaaacag cattgaaata cttgaataat gggatccatg aagatgggtc aacacaatat 300  
caagtggaat ttggtacggg tgggtcaaac atcaccttgg aaacacgcca aaaaattgaa 360  
gcagatttga aaaagaaaaa aatttcaggt gtttatttca atgaacatcc agccagatta 420  
tatcccaatg gtcagtttgc ttctcacttt attggctata caaaagcagc caatccagat 480  
gatgataaag aaggcttagt aggagcaatg ggactagaac ag 522

<210> 812  
<211> 332  
<212> DNA  
<213> *Staphylococcus aureus*

<400> 812  
taataaaacg tatgaaatat catctgcaga atgggaagtt atgaatatca tttggatgaa 60  
aaaatatgca agtgcgaata atataataga agaaatacaa atgcaaaagg actggagtcc 120  
aaaaaccatt cgtacactta taacgagatt gtataaaaag ggatttatag atcgtaaaaa 180  
agacaataaa attttttaat attactctct tgtagaagaa agtgatataa aatataaaac 240  
atctaaaaac tttatcaata aagtctacaa aggcgggtttc aattcacttg tcttaaactt 300  
tgtagaaaaa gaagatctat cacaagatga aa 332

<210> 813  
<211> 530  
<212> DNA  
<213> Streptococcus pneumoniae

<400> 813  
cttggtttagc gattcagtta gaacaaaaag caaccaagca agaaatcttg acctactata 60  
taaataaggt ctacatgtct aatggcaact atggaatgca gacagcagct caaaactact 120  
atggtaaaga cctcaataat ttaagtttac ctacagtttagc cttgctggct ggaatgcctc 180  
aggcaccaaa ccaatatgac ccctattcac atccagaagc agcccaagac cgccgaaact 240  
tggtctttatc tgaaatgaaa aatcaaggct acatctctgc tgaacagtat gagaaagcag 300  
tcaatacacc aattactgat ggactacaaa gtctcaaatac agcaagtaat taccctgctt 360  
acatggataa ttacctcaag gaagtcatca atcaagttga agaagaaaca ggatataacc 420  
tgctcacaac tgggatggat gtctacacaa atgtagacca agaagctcaa aaacatctgt 480  
gggatattta caatacagac gaatacgttg cctatccaga cgatgaattg 530

<210> 814  
<211> 355  
<212> DNA  
<213> Staphylococcus aureus

<400> 814  
agcaagttga aatatctatg gctgaatggg atgttatgaa tataatatgg gataaaaaat 60  
cagtatcagc taatgaaatt gtagttgaaa ttcaaaaata taaagaagtt agcgataaaa 120  
cgattagaac attaatacaca agactatata aaaaagagat tataaaacga tacaatacag 180  
agaatattta tttttactca tcaaataatta aagaagacga tattaaaatg aaaactgcta 240  
aaacctttct taataaactg tatggagggg acatgaaaag tttagtgtcg aattttgcga 300  
aaaatgaaga attaaataac aaagaaattg aagaattgcg agacatttta aatga 355

<210> 815  
<211> 702  
<212> DNA  
<213> Escherichia coli

<400> 815  
acatcgaact ggatctcaac agcggtaaga tccttgagag ttttcgcccc gaagaacggt 60  
ttccaatgat gagcactttt aaagttctgc tatgtggtgc ggtattatcc cgtgttgacg 120  
ccgggcaaga gcaactcggc cgccgcatac actattctca gaatgacttg gttaagtact 180

caccagtcac agaaaagcat cttacggatg gcatgacagt aagagaatta tgcagtgctg 240  
ccataaccat gagtataac actgctgcca acttacttct gacaacgacg ggaggaccga 300  
aggagctaac cgcttttttg cacaacatgg gggatcatgt aactcgcctt gatcggtggg 360  
aaccggagct gaatgaagcc ataccaaacg acgagcgtga caccacgacg cctgcagcaa 420  
tggcaacaac gttgcgcaaa ctattaactg gcgaactact tactctagct tcccggcaac 480  
aattaataga ctggatggag gcggataaag ttgcaggacc acttctgcgc tcggcccttc 540  
cggctggctg gtttattgct gataaatctg gagccggtga gcgtgggtct cgcggtatca 600  
ttgcagcact ggggccagat ggtaagccct cccgtatcgt agttatctac acgacgggga 660  
gtcaggcaac tatggatgaa cgaaatagac agatcgctga ga 702

<210> 816  
<211> 596  
<212> DNA  
<213> *Klebsiella oxytoca*

<400> 816  
tgtgcagcac cagtaaagtg atggccgccc cgcggtatt aaaacagagc gaaagcaata 60  
aagaggtggt aaataaaagg ctggagatta acgcagccga tttggtggtc tggagtccga 120  
ttaccgaaaa acatctccag agcggaatga cgctggctga gctaagcgcg gcgacgctgc 180  
aatatagcga caatacggcg atgaatctga tcatcggtta ccttggcggg ccggaaaaag 240  
tcaccgcctt cgcccgcagt atcggcgatg ccacctttcg tctcgatcgt acggagccca 300  
cgctgaatac cgccatcccc ggcgatgagc gtgataccag cagcccgctg gcgatggctg 360  
aaagcctacg caagctgacg cttggcgatg cgctgggcga acagcaacgc gccagttag 420  
tcacctggct gaaaggcaat accaccggcg ggcaaagcat tcgcgcgggc ctgcctgaaa 480  
gctgggtggt cggcgataaa accggcgccg gagattacg caccaccaat gatattgcgg 540  
ttatctggcc ggaagatcac gctccgctgg tattagtcac ctactttacc cagccg 596

<210> 817  
<211> 558  
<212> DNA  
<213> *Enterococcus faecium*

<400> 817  
acagtgccag ttcttatcgt ttattgcaag ccgatgaaaa tacaaaaagt ctattattgc 60  
gtcaactaat ttcatatatt ttgagttgga gcgtgatctt cttagctcgt tcagtcaaac 120



tacactatTT acttcaccct aaaatagcag gatacggTTT agccttatcg atTTTctTTT 180  
tagtattagt aagaataggg atattcggtg tcaactgtcaa cggcgcacaa cgttggatct 240  
ctctgTTTgg cattcaattc cagccttctg aactggcaaa tctTTTTTTg atTTTTtatt 300  
taagctggTT tTTtcgtgac ggaaatagta gcccaaaaga tctaaaaaaa ccattcctga 360  
ttacagtagg tataactTTT ctgattTTt at ttcagccaaa gattgctgga gcattgatga 420  
tcctttcgat tgcgtgggtc atattTTTggg cagcggcggT tccatttaaa aaagggatct 480  
atctaatcgt tactTTTTtct gcattgctga ttggagcagc aggcggggta ttatatttag 540  
gaaataaagg ttggcttc 558

<210> 818  
<211> 750  
<212> DNA  
<213> Staphylococcus aureus

<400> 818  
ctcacccaaa tggagattta ttacaattaa cgaaatgggc agaaacaaag aaattaactg 60  
gatggtacgc gcgaagaatc gctgtaggtc gtgacggTga agttcagggt gttgcgcaat 120  
tactTTTTta aaaagtacct aaattaccgt atacgctatg ttatatTTca cgtggTTTTg 180  
ttgttgatta tagtaataaa gaagcgTTaa atgcattgtt agacagtTca aaagaaattg 240  
ctaaagctga gaaagcgtat gcaattaaaa tcgatcctga tgttgaagtt gataaaggta 300  
cagatgctTT gcaaaatttg aaagcgcttg gTTTTaaaca taaaggattt aaagaaggTT 360  
tatcaaaaga ctacatccaa ccacgtatga ctatgattac accaattgat aaaaatgatg 420  
atgagTTatt aaatagTTTT gaacgccgaa atcgTTcaaa agtgcgcttg gctTTaaagc 480  
gaggTacgac agtagaacga tctgatagag aaggTTTTaaa aacatttgct gaattaatga 540  
aaatcactgg ggaacgcgat ggcttctTaa cgcgtgatat tagttactTT gaaaatattt 600  
atgatgcgtt gcatgaagat ggagatgctg aactattTTT agtaaagttg gacccaaaag 660  
aaaatatagc gaaagtaa at caagaattga atgaactTca tgccgaaata gctaaatggc 720  
agcagaagat ggaaacatct gaaaagcaag 750

<210> 819  
<211> 363  
<212> DNA  
<213> Proteus vulgaris

<400> 819

acaacatttc gccaaacagc gacgattgca gtttcattaa tatctctatt ggtatctcca 60  
atgctatggg ctaacaccaa taatacgatt gaagagcaat taagtacgct tgaaaaatat 120  
agccaagggtc gtttaggtgt tgctttaatc aacacggaag ataattcaca aataacatat 180  
cgtggtgaag aacgttttgc gatggcaagt acaagtaagg ttatggctgt tgcggcagtt 240  
ttaaaagaga gtgaaaaaca agcgggatta ttagataaga atattacaat taaaaaatcc 300  
gacttagttg cttacagccc tattacagaa aaacatttag taacaggaat gtcttttagct 360  
caa 363

<210> 820  
<211> 545  
<212> DNA  
<213> Staphylococcus haemolyticus

<400> 820  
aatgatggct ttgaagtagt gttactaggt gtaaaagatg aaagcaataa agtattagct 60  
gctagtcttt tctctaaaat accgaccatg ggaagttatg tatattactc aaatcgaggc 120  
ccagtaatgg actattctga tttaggctta gttgattttt acttacgcga attagaaaag 180  
tatttacatc aacaccaatg tttatacggtt aaaattgatc catactggat ttatcaaatt 240  
tatgataaag atattaatcc acttgaagat agagagaaaa atgatgctat agttaatttg 300  
tttaaatacac atggatatga acaccatgga tttactactg aatatgacac atcaagtcaa 360  
gcaagatgga tgggtggttag ctatctaaaa ggggaaacac ctgcttcatt aagaaaacaa 420  
tttgatagcc aacgtaaaag aaatattaat aaagcgataa actatgggggt gaaagtaaga 480  
ttccttggtg gagatgagtt tcatatattc ttagacttat accgtgaaac agaagcaaga 540  
acagg 545

<210> 821  
<211> 633  
<212> DNA  
<213> Pseudomonas aeruginosa

<400> 821  
ccatcaggca acagaatgat acctaaatca ttagtggccg cagtttttcc ggctttgata 60  
cccgaagtac cagtttttatg tgcgaccaca gtaccagctg gtaacaaacc tttaaccgc 120  
tctggtcctg tgggtggtttc gaccatccac ttccataaca aagcctgcga ggtttcagac 180  
agctgtgttt tttgctcaaa ctttttcagg atctctgcag cacctttcat cgagggtccag 240

ttttgatact gcacctgata atcggcggtgc atctgcgctt catttgcgac cacagcggtc 300  
tcctttatac ccatagactg gatatagtca tgcaaagcag ctggtccacc aaccagttca 360  
aataacaaat cacaggccac gttatcgctg tgcgagaccg agtattgcag cagttgctgc 420  
actggaacac taaactcgtc tccctgatac gctttcatta tcggagccca ggtattctgt 480  
aaaaccttag ccctgtttac gataacgggc tgattttaa ccaactttcc ctgatcaacc 540  
tgatgcagta ccaacatagc taaatgcaat ttaaatacac tttgcattgg gaatttttca 600  
aaaggattaa tcagtaaagg ttccagatcg tca 633

<210> 822  
<211> 340  
<212> DNA  
<213> *Klebsiella oxytoca*

<400> 822  
cttactatcg gagctgggtca ccggtttatc cggcaggac tcatcgccag tattccaacc 60  
ccagcatagg cctgttttgt cacctggccg caaatagtct gggccagcca tttgagcaac 120  
tgatgagcca gaccctgctg cccaagctgg gtttgcacca cacctatata caggtgccgg 180  
agtcggccat ggcgaaactat gcctacggct attcgaagga agataagccc atccgggtca 240  
ctccggggcg gctggcgggc gaggcttacg ggatcaagac cggctcggcg gatctgctga 300  
agtttgccga ggcaaactg gggatatcagg gagatgccct 340

<210> 823  
<211> 768  
<212> DNA  
<213> *Proteus vulgaris*

<400> 823  
tcactcatta accattgctg aaatatttcc attgatgctg tcattggctt tgattttaaa 60  
tatgttagcc aatattttcc catttcaact tctattttta agggttgac taactgacca 120  
ttttcaattt ctcttgaaaa catttttget ggtgctaata caactcctcc ttcataaata 180  
gcgctttcaa tcattaagcg tgaagagtca aaaatagagc ccgttatatt tataggcgac 240  
atatttgctt tttcaaacca ttgcaaccac tcatcttctc gataagagcg atacaagttt 300  
tcatttatta gatcagttgg atgttgtaaa cgtttcgccc taccgatga acacaatacc 360  
gttaatgggt cagaaaataa tgctttgtta tgagttaat gccataaacc ttcaccaa 420  
cgaatagcaa aatctaatac ttcagtagcc aaattgacca cattattatt tgttcttaaa 480

ttcacttcta ttcttggata taactgccta aattcggcca acctaggtaa taaccaccca 540  
 accgcaaattg taccgacagc tgcaattgaa acaacatcgc gatattcacc gcgttcaaatt 600  
 tgttttaaata cacgctcaat atcactaaaa gccgttggtta atacagaaaa taagatttga 660  
 gcatcatccg tcattttctaa acctcgaggt aagcgcttaa aaagaataac gccaagccgc 720  
 tcttctaaca ttctcacttg ttggctaaca gcaccttgag tgacatac 768

<210> 824  
 <211> 568  
 <212> DNA  
 <213> Enterococcus faecium

<400> 824  
 ttatctgttt tgttactgct tacactagta gtcggctttt tttcgattga atttgtccat 60  
 ggatttttctg ctgcaaaaca gacctcaacc gtaaaaaagg tagatccgaa aagtgtccct 120  
 accacactaa atgtggcttt gattggttcg gatgcccggc cgaaagaaga aatgggtcgc 180  
 tcagattcac ttatgggttg acaatacgac cagaaaacac aacaagcaaa actaatctct 240  
 atcatgagag actcatatgt cgatatacca gggttacggaa tggataaaat caatgcagcg 300  
 tactcttacg gaggaattga tttattgaac caaacattaa aggaaaattt caaatttgaa 360  
 gccccgtatt atgcaagtat cacatttcaa gattttatcg attgctgcaa tgaactgttt 420  
 cctgatggag taaagattga tgcagaaaaa tcttttagatt tagatggcgt atatataaaa 480  
 aaaggggaagc aagtaatgga tggcaatacg ttactgcagt atgctcgatt ccgtgaagac 540  
 gaagaagggg actttgggag gattagaa 568

<210> 825  
 <211> 763  
 <212> DNA  
 <213> Staphylococcus aureus

<400> 825  
 tgacttcgga tgagttcaat gcgtttacaa caaagcattt ttcacattac acacaatcag 60  
 ctattcatta caatcataga gttgatttaa aaggcgatgt gcatcttgta ggggttaaag 120  
 atgacaatgg tcaagtgatt gcaggatgct tattgacaga agcacgcaca cttaaatttt 180  
 tcaaataattt ttatacacat cgcggggccag tgatggatta tacaatatcaa tcattagtag 240  
 catttttctt taaagcatta acgtcatatt taaagaaaca caattgttta tatgtccttg 300  
 tagatccata tttaattgaa aatttacgca atgcagacgg tgaaattggt aaatcttatg 360

ataaccgagc atttggttaga acaatggata aattagggtta taaacaccaa ggtttccctg 420  
taggttatga ttcaatgagc caaatccgtt ggctgtcagt gttagattta aaagataaga 480  
ctgaagacca actttttaaaa gaaatggatt atcaaacgag acgtaatatt aaaaaaacat 540  
atgatattgg tgtcaaaact aaaacggtta cgattgatga aacgcaaact tttttcgact 600  
tattccatat ggctgaggaa aagcacgggt tcaaattccg tgagttacca tactttgaag 660  
aaatgcaaaa gttatacgat gaccacgcca tgttaaagtt ggcgtatatt gatttaaacg 720  
agtattttaa aacggttaca ttaaagcaac aacaattaac agc 763

<210> 826  
<211> 552  
<212> DNA  
<213> Staphylococcus epidermidis

<400> 826  
aagtataatc agttcattgc tcacgatatg tgtaattttt ttagtgagaa tgctctatat 60  
aaaatatact caaaatatta tgtcacataa gatttggtta ttagtgctcg tctccacgtt 120  
aattccatta ataccatttt acaaaatatc gaattttaca ttttcaaaag atatgatgaa 180  
tcgaaatgta tctgacacga cttcttcggt tagtcatatg ttagatgggc aacaatcatc 240  
tgttacgaaa gacttagcaa ttaatgttaa tcagtttgag acctcaaata taacgtatat 300  
gattcttttg atatgggtat ttggtagttt gttgtgctta ttttatatga ttaaggcatt 360  
ccgacaaatt gatgttatta aaagttcgtc attggaatcg tcatatctta atgaacgact 420  
taaagtatgt caaagtaaga tgcagttcta caaaaagcat ataacaatta gttatagttc 480  
aaacattgat aatccgatgg tatttggttt agtgaaatcc caaattgtac taccaactgt 540  
cgtagtcgaa ac 552

<210> 827  
<211> 810  
<212> DNA  
<213> Staphylococcus aureus

<400> 827  
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agtaaaattt aattcagata agagatttgc ctatgcttca acttcaaaag cgataaatag 180  
tgctattttg ttagaacaag taccttataa taagttaaata aaaaaagtac atattaacaa 240

agatgatata gttgcttatt ctctatTTTT agaaaaatat gtaggaaaag atatcacttt 300  
aaaagcactt attgaggctt caatgacata tagtgataat acagcaaaca ataaaattat 360  
aaaagaaatc ggtggaatca aaaaagttaa acaacgtcta aaagaactag gagataaagt 420  
aacaatcca gttagatatg agatagaatt aaattactat tcaccaaaga gcaaaaaaga 480  
tacttcaaca cctgctgctt tcggtaagac tttaaataaa cttatcgcaa atggaaaatt 540  
aagcaaagaa acaaaaaaat tcttacttga tttaatgtta aataataaaa gcggagatac 600  
tttaattaaa gacggtgttc caaaagacta taagggttgc gataaaagtg gtcaagcaat 660  
aacatatgct tctagaaatg atgttgcttt tgtttatcct aagggccaat ctgaacctat 720  
tgtttttagtc atttttacga ataaagacaa taaaagtgat aagccaatg ataagttgat 780  
aagtgaacc gccagagtg taatgaagga 810

<210> 828  
<211> 565  
<212> DNA  
<213> Plasmid RGN238

<400> 828  
tttgaaggaa ctgaagggtg ttttttactt tacgatgcat ccacaaacgc tgaaattgct 60  
caattcaata aagcaaagtg tgcaacgcaa atggcaccag attcaacttt caagatcgca 120  
ttatcactta tggcatttga tgcggaaata atagatcaga aaaccatatt caaatgggat 180  
aaaacccccca aaggaatgga gatctggaac agcaatcata caccaaagac gtggatgcaa 240  
ttttctgttg tttgggtttc gcaagaaata acccaaaaaa ttagattaaa taaaatcaag 300  
aattatctca aagattttga ttatggaaat caagacttct ctggagataa agaaagaaac 360  
aacggattaa cagaagcatg gctcgaaagt agcttaaaaa tttcaccaga agaacaatt 420  
caattcctgc gtaaaattat taatcacaat ctcccagtta aaaactcagc catagaaaac 480  
accatagaga acatgtatct acaagatctg gataatagta caaaactgta tgggaaaact 540  
ggtgcaggat tcacagcaaa tagaa 565

<210> 829  
<211> 226  
<212> DNA  
<213> *Klebsiella pneumoniae*

<400> 829  
ggcttacggg atcaagaccg gctcggcgga tctgctgaag tttgccgagg caaacatggg 60



gtatcagggg gatgccgcgg taaaaagcgc gatcgcgctc acccacaccg gtttctactc 120  
gggtgggagac atgacccagg gactgggctg ggagagttac gcctatccgg tgaccgagca 180  
gacattgctg gcgggtaacg caccggcggg gagcttccag gccaat 226

<210> 830  
<211> 502  
<212> DNA  
<213> *Proteus mirabilis*

<400> 830  
gcggtaaagt ccttgagagt ttctgccccg aagaacgttt tccaatgatg agcactttta 60  
aagttctgct atgtggtgcg gtattatccc gtgttgacgc cgggcaagag caactcggtc 120  
gccgcataca ctattctcag aatgacttgg ttaagtactc accagtcaca gaaaagcatc 180  
ttacggatgg catgacagta agagaattat gcagtgtgc cataaccatg agtgataaca 240  
ctgcggccaa cttacttctg acaacgatcg gaggaccgaa ggagctaacc gcttttttgc 300  
acaacatggg ggatcatgta accgccttg atcggtggga accggagctg aatgaagcca 360  
taccaaacga cgagcgtgac accacgacgc ctgcagcaat ggcaacaacg ttgcgcaaac 420  
tattaactgg cgaactactt actctagctt cccggcaaca attaatagac tggatggagg 480  
cggataaagt tgcaggacca ct 502

<210> 831  
<211> 391  
<212> DNA  
<213> *Staphylococcus warneri*

<400> 831  
agttgaaaat gaaatatgta taagaacttt aatagatgat gattttcctt tgatgttaaa 60  
atggttaact gatgaaagag tattagaatt ttatggtggt agagataaaa aatatacatt 120  
agaatcatta aaaaaacatt atacagagcc ttgggaagat gaagttttta gagtaattat 180  
tgaatataac aatgttccta ttggatatgg acaaatatat aaaatgtatg atgagttata 240  
tactgattat cattatccaa aaactgatga gatagtctat ggtatggatc aatttatagg 300  
agagccaaat tattggagta aaggaattgg tacaagatat attaaattga tttttgaatt 360  
tttgaaaaaa gaaagaaatg ctaatgcagt t 391

<210> 832  
<211> 380  
<212> DNA

<213> Pseudomonas aeruginosa

<400> 832

tcattcgac	atgtaggctc	ggccctgacc	aagtccaatc	catgcgggct	gctcttgatc	60
ttttcggtcg	tgagttcgga	gacgtagcca	cctactccca	acatcagccg	gactccgatt	120
acctcgggaa	cttgctccgt	agtaggacat	tcatcgcgct	tgctgccttc	gagcaagaag	180
cggttgttgg	cgctctcgcg	gcttacgttc	tgcccaagtt	tgagcaggcg	cgtagtgaga	240
tctatatcta	tgatctcgca	gtctccggcg	agcaccgccg	gcagggcatt	gccaccgcgc	300
tcatcaatct	cctcaagcat	gaggccaacg	cgcttggtgc	ttacgtgac	tacgtgcaag	360
cggattacgg	tgacgatccc					380

<210> 833

<211> 616

<212> DNA

<213> Escherichia coli

<400> 833

gaccgatcac	cctacgagga	gactcgtaat	ggcgctcggt	tggatgacaa	aaccgcgct	60
acctggccgc	cgttcgatcc	cgcaacggcc	gggacttacc	gtgggttcgg	cctgctgaat	120
cagtttctgg	ttcaagcccc	cggcgcgcgg	cgcagcgcgc	accccgatgc	atcgatggtc	180
gcggttggtc	cactggctga	aacgctgacg	gagcctcaca	agctcgggtca	cgccttgggg	240
gaagggtcgc	ccgtcgagcg	gttcgttcgc	cttggcggga	aggccctgct	gttgggtgcg	300
ccgctaaact	ccgttaccgc	attgcactac	gccgaggcgg	ttgccgatat	ccccaacaaa	360
cggcgggtga	cgtatgagat	gccgatgctt	ggaagcaacg	gcgaagtcgc	ctggaaaacg	420
gcatcggatt	acgattcaaa	cggcattctc	gattgctttg	ctatcgaagg	aaagccggat	480
gcggtcgaaa	ctatagcaaa	tgcttacgtg	aagctcggtc	gccatcgaga	aggtgtcgtg	540
ggctttgctc	agtgctacct	gttcgacgcg	caggacatcg	tgacgttcgg	cgtcacctat	600
cttgagaagc	atttcg					616

<210> 834

<211> 707

<212> DNA

<213> Escherichia coli

<400> 834

aagtttcatt	gccagacggg	acttctgcaa	tcgtcaaggg	attgaaacct	atagaagaca	60
ttgctgatga	actgcgcggg	gccgactatc	tggtatggcg	caatgggagg	ggagcagtcc	120

gggtgctcgg tcgtgagaac aatctgatgt tgctcgaata tgccggggag cgaatgctct 180  
 ctcacatcgt tgccgagcac ggcgactacc aggcgaccga aattgcagcg gaactaatgg 240  
 cgaactgtat gcccgcatct gaggaccctt gccttctgcc cttctcccga tccgggatcg 300  
 ctttgcagct ttgtttcagc gggcgcgcgga atgatcaaaa cgcagggttg caaactgact 360  
 acgtccacgc ggcgattata gccgatcaaa tgatgagcaa tgccctcgaa ctgcgtgggc 420  
 tacatggcga tctgcatcat gaaaacatca tggttctccag tcgcggctgg ctggtgaaag 480  
 atcccgtcgg tctggtcggt gaagtgggct ttggcgccgc aaatatgttc tacgatccgg 540  
 ctgacagaga cgacctttgt ctcgatccta gacgcattgc acagatggcg gacgcattct 600  
 ctcgtgcgct ggacgtcgat ccgcgtcgcc tgctcgaaca ggcgtacgct tatgggtgcc 660  
 tttccgcagc ttggaacgcg gatggagaag aggagcaacg cagtcta 707

<210> 835  
 <211> 545  
 <212> DNA  
 <213> *Enterococcus faecalis*

<400> 835  
 gccgaagtat cgactcaact atcagaggta gttggcgtca tcgagcgcca tctcgaaccg 60  
 acgttgctgg ccgtacattt gtacggctcc gcagtggatg gcggcctgaa gccacacagt 120  
 gatattgatt tgctgggttac ggtgaccgta aggcttgatg aaacaacgcg gcgagctttg 180  
 atcaacgacc ttttggaaac ttcggcttcc cctggagaga gcgagattct ccgcgctgta 240  
 gaagtcacca ttgttggtgca cgacgacatc attccgtggc gttatccagc taagcgcgaa 300  
 ctgcaatttg gagaatggca gcgcaatgac attcttgcag gtatcttcga gccagccacg 360  
 atcgacattg atctggctat cttgctgaca aaagcaagag aacatagcgt tgccttggtta 420  
 ggtccagcgg cggaggaact ctttgatccg gttcctgaac aggatctatt tgaggcgcta 480  
 aatgaaacct taacgctatg gaactcgccg cccgactggg ctggcgatga gcgaaatgta 540  
 gtgct 545

<210> 836  
 <211> 515  
 <212> DNA  
 <213> *Escherichia coli*

<400> 836  
 gcaggtcaca ttgatacaca aaattctagc tgcggcagat gagcgaaatc tgccgctctg 60

gatcgggtggg ggctgggcga tcgatgcacg gctagggcgt gtaacacgca agcacgatga 120  
tattgatctg acgtttcccg gcgagaggcg cggcgagctc gaggcaatag ttgaaatgct 180  
cggcggggcgc gtcattggagg agttggacta tggattctta gcggagatcg gggatgagtt 240  
acttgactgc gaacctgctt ggtgggcaga cgaagcgtat gaaatcgcgg aggctccgca 300  
gggctcgtgc ccagaggcgg ctgagggcgt catcgccggg cggccagtcc gttgtaacag 360  
ctgggaggcg atcatctggg attactttta ctatgccgat gaagtaccac cagtggactg 420  
gcctacaaag cacatagagt cctacaggct cgcattgcacc tcactcgggg cggaagagg 480  
tgaggctctg cgtgccgctt tcaggctcgc atatg 515

<210> 837  
<211> 502  
<212> DNA  
<213> Staphylococcus aureus

<400> 837  
gctattggtg tttatggctc tcttggctgt cagactgatg ggccctattc ggatattgag 60  
atgatgtgtg tcatgtcaac agaggaagca gagttcagcc atgaatggac aaccggtgag 120  
tggaagggtg aagtgaattt tgatagcgaa gagattctac tagattatgc atctcagggtg 180  
gaatcagatt ggccgcttac acatgggtcaa tttttctcta ttttgccgat ttatgattca 240  
ggtggatact tagagaaagt gtatcaaact gctaaatcgg tagaagccca aacgttccac 300  
gatgcgattt gtgcccttat cgtagaagag ctgtttgaat atgcaggcaa atggcgtaat 360  
attcgtgtgc aaggaccgac aacatttcta ccatccttga ctgtacaggt agcaatggca 420  
ggtgccatgt tgattggtct gcatcatcgc atctgttata cgacgagcgc ttcgggtctta 480  
actgaagcag ttaagcaatc ag 502

<210> 838  
<211> 452  
<212> DNA  
<213> Pseudomonas aeruginosa

<400> 838  
gctaaatcga tctcatatcg tcgagtgggtg gggcggagaa gaagcacgcc cgacacttgc 60  
tgacgtacag gaacagtact tgccaagcgt tttagcgcaa gagtccgtca ctccatacat 120  
tgcaatgctg aatggagagc cgattgggta tgcccagtcg tacgttgctc ttggaagcgg 180  
ggacggatgg tgggaagaag aaaccgatcc aggagtacgc ggaatagacc agtcactggc 240

gaatgcatca caactgggca aaggcttggg aaccaagctg gttcgagcac tggttgagtt 300  
gctgttcaat gatcccgagg tcaccaagat ccaaacggac ccgtcgccga gcaacttgcg 360  
agcgatccga tgctacgaga aagcgggggtt tgagaggcaa ggtaccgtaa ccaccccaga 420  
tggtcagcc gtgtacatgg ttcaaacacg cc 452

<210> 839  
<211> 565  
<212> DNA  
<213> Escherichia coli

<400> 839  
ctcatttggc tcaaaggctg aggtgtggct tgccccgagg tgatcaactg gcaggaggaa 60  
caggaggggtg catgcttggt gataacggca attccgggag taccggcggc tgatctgtct 120  
ggagcggatt tgctcaaagc gtggccgtca atggggcagc aacttggcgc tgttcacagc 180  
ctatcggttg atcaatgtcc gtttgagcgc aggtgtcgc gaatgttcgg acgcgccgtt 240  
gatgtgggtg cccgcaatgc cgtcaatccc gacttcttac cggacgagga caagagtacg 300  
ccgcagctcg atcttttggc tcgtgtcgaa cgagagctac cggtgcggt cgaccaagag 360  
cgcaccgata tggttgtttg ccatggtgat cctgcatgc cgaacttcat ggtggaccct 420  
aaaactcttc aatgcacggg tctgatcgac cttgggcggc tcggaacagc agatcgctat 480  
gccgatttgg cactcatgat tgctaacgcc gaagagaact gggcagcgcc agatgaagca 540  
gagcgcgcct tcgctgtcct attca 565

<210> 840  
<211> 707  
<212> DNA  
<213> Staphylococcus aureus

<400> 840  
gagaatatca ccggaattga aaaaactgat cgaaaaatac cgctgcgtaa aagatacggg 60  
aggaatgtct cctgctaagg tatataagct ggtgggagaa aatgaaaacc tatatttaaa 120  
aatgacggac agccggtata aagggaccac ctatgatgtg gaacgggaaa aggacatgat 180  
gctatggctg gaaggaaagc tgccgtgtcc aaaggctcctg cactttgaac ggcatgatgg 240  
ctggagcaat ctgctcatga gtgaggccga tggcgtcctt tgctcggaag agtatgaaga 300  
tgaacaaagc cctgaaaaga ttatcgagct gtatgcggag tgcacaggc tctttcactc 360  
catcgacata tcggattgtc cctatacgaa tagcttagac agccgcttag ccgaattgga 420

ttacttactg aataacgata tggccgatgt ggattgcgaa aactgggaag aagacactcc 480  
atttaaagat ccgcgcgagc tgtatgattt tttaaagacg gaaaagcccg aagaggaact 540  
tgtcttttcc cacggcgacc tgggagacag caacatcttt gtgaaagatg gcaaagtaag 600  
tggctttatt gatcttggga gaagcggcag ggcggacaag tggatgaca ttgccttctg 660  
cgtccggtcg atcagggagg atatcgggga agaacagtat gtcgagc 707

<210> 841  
<211> 329  
<212> DNA  
<213> *Pseudomonas aeruginosa*

<400> 841  
cctgaccaag tccaatccat gcgggctgct cttgatcttt tcggtcgtga gttcggagac 60  
gtagccacct actcccaaca tcagccggac tccgattacc tcgggaactt gctccgtagt 120  
aggacattca tcgcgcttgc tgccttcgag caagaagcgg ttggtggcgc tctcgcggt 180  
tacgttctgc ccaagtttga gcaggcgcgt agtgagatct atatctatga tctcgcagtc 240  
tccggcgagc accgcggca gggcattgcc accgcgctca tcaatctcct caagcatgag 300  
gccaacgcgc ttggtgctta cgtgatcta 329

<210> 842  
<211> 423  
<212> DNA  
<213> *Pseudomonas aeruginosa*

<400> 842  
tgcgatgctc tatgagtggc taaatcgatc tcatatcgtc gagtgggtggg gcggagaaga 60  
agcacgcccc acacttgctg acgtacagga acagtacttg ccaagcgttt tagcgcaaga 120  
gtccgtcact ccatacattg caatgctgaa tggagagccg attgggtatg cccagtcgta 180  
cgttgctctt ggaagcgggg acggatgggtg ggaagaagaa accgatccag gagtacgcgg 240  
aatagaccag tcaactggcg atgcatcaca actgggcaaa ggcttgggaa ccaagctgggt 300  
tcgagcactg gttgagttgc tgttcaatga tcccgaggtc accaagatcc aaacggaccc 360  
gtcgccgagc aacttgcgag cgatccgatg ctacgagaaa gcgggggttg agaggcaagg 420  
tac 423

<210> 843  
<211> 613



<212> DNA

<213> *Staphylococcus aureus*

<400> 843

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agatttgcca gaacatgaat tacacgaggg caaaaaagaa gattggttatt taatggaata      60
tagatatgat gataatgcca caaatgttaa ggcaatgaaa tatttaattg agcattactt      120
tgataatttc aaagtagata gtattgaaat aatcggtagt ggttatgata gtgtggcata      180
tttagttaat aatgaataca tttttaaaac aaaatttagt actaataaga aaaaaggtta      240
tgcaaaagaa aaagcaatat ataatttttt aaatacaaat ttagaaacta atgtaaaaat      300
tcctaataatt gaatattcgt atattagtga tgaattatct atactagggt ataaagaaat      360
taaaggaact tttttaacac cagaaattta ttctactatg tcagaagaag aacaaaattt      420
gttaaaacga gatattgcca gttttttaag acaaatgcac ggtttagatt atacagatat      480
tagtgaatgt actattgata ataaacaaaa tgtattagaa gagtatatat tgttgcgtga      540
aactatttat aatgatttaa ctgatataga aaaagattat atagaaagtt ttatggaaag      600
actaaatgca aca                                     613
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<210> 844

<211> 424

<212> DNA

<213> *Staphylococcus aureus*

<400> 844

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atatcaggaa agattggaaa tacggattct gttagaccac ttgaagttac ggttataaat      60
aggagtgaag ttgtcccttg gcaatatcct ccaaaaagag aatttatata cggtgagtgg      120
ctcaggggtg aatttgagaa tggacaaatt caggaaccaa gctatgatcc tgatttggct      180
attgttttag cacaagcaag aaagaatagt atttctctat ttggctcctga ttcttcaagt      240
atacttgtct ccgtaccttt gacagatatt cgaagagcaa ttaaggattc ttgcccagaa      300
ctaattgagg ggataaaagg tgatgagcgt aatgtaattt taaccctagc tcgaatgtgg      360
caaacagtga ctactgggtga aattacctcg aaagatgtcg ctgcagaatg ggctatacct      420
cttt                                     424
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<210> 845

<211> 532

<212> DNA

<213> synthetic construct

<400> 845

aagatacggg aggaatgtct cctgctaagg tatataagct ggtgggagaa aatgaaaacc 60  
tatattttaa aatgacggac agccggtata aagggaccac ctatgatgtg gaacgggaaa 120  
aggacatgat gctatggctg gaaggaaagc tgcctgttcc aaaggtcctg cactttgaac 180  
ggcatgatgg ctggagcaat ctgctcatga gtgaggccga tggcgtcctt tgctcggaag 240  
agtatgaaga tgaacaaagc cctgaaaaga ttatcgagct gtatgcggag tgcacaggc 300  
tctttcactc catcgacata tcggattgtc cctatacgaa tagcttagac agccgcttag 360  
ccgaattgga ttacttactg aataacgacg tggccgatgt ggattgcgaa aactgggaag 420  
aagacactcc atttaaagat ccgcgcgagc tgtatgattt tttaaagacg gaaaagcccg 480  
aagaggaact tgtcttttcc cacggcgacc tgggagacag caacatcttt gt 532

<210> 846  
<211> 200  
<212> DNA  
<213> Staphylococcus aureus

<400> 846  
acacagtcaa aactttatta cttcaaaaca taatatagat aaaataatga caaatataag 60  
attaaatgaa catgataata tctttgaaat cggctcagga aaagggcatt ttacccttga 120  
attagtacag aggtgtaatt tcgtaactgc cattgaaata gaccataaat tatgcaaaac 180  
tacagaaaat aaacttggtg 200

<210> 847  
<211> 510  
<212> DNA  
<213> Enterococcus faecium

<400> 847  
cgtttaccaa aggagaaggt gaccaatact ctgatataga gttctatata tttttgaaac 60  
atagtataac ctcgaacttt gattcatcca actggttggt tgacgtagct ccgtacttga 120  
tgctttataa aaatgagtac ggaacagagg tagttatttt tgataatctt atacgtgggg 180  
aatttcattt cctttctgaa aaagatatga acataatccc ctcgttttaa gattcagggt 240  
atattcctga tacgaaggct atgcttattt acgatgaaac agggcaatta gaaaattatt 300  
tatcagagat aagtgggtgca agaccaaata gacttactga agaaaatgct aattttttgt 360  
tgtgtaattt ctctaattct tggttgatgg gaatcaacgt tctaaaaaga ggagaatatg 420  
ctcgttcatt agaactctta tcacaacttc aaaaaaatac actacaactt atacgtatgg 480

cagaaaaaaaa tgctgataat tggctaaaca 510

<210> 848  
<211> 227  
<212> DNA  
<213> Staphylococcus aureus

<400> 848  
gtgattacag aaatgaaagc agggcacctg aaagatatcg ataaaccag cgaaccattt 60  
gaggtgatag gtaagattat accgaggtat gaaaacgaga attggacctt tacagaatta 120  
ctctatgaag cgccatattt aaaaagctac caagacgaag aggatgaaga ggatgaggag 180  
gcagattgcc ttgaatatat tgacaatact gataaggtaa tatatct 227

<210> 849  
<211> 708  
<212> DNA  
<213> Staphylococcus aureus

<400> 849  
gacagatttt cgatccctta atattgaaaa tctttatgct tatcaatttg aaaaaatagc 60  
acttattgga ggtaatggta ctggcaaaac cacattactg aatatgattg ctcaaaaaac 120  
aaaaccagaa tctggaacgg ttgaaacgga tggcgaaatt caatatTTTg aacagcttaa 180  
catggatgtg gaaaatgatt ttaacacgtt agacggtagt ttaatgagtg aactccatat 240  
acctatgcat acaaccgaca gtatgagtgg tggtgaaaaa gcaaaatata aattagctaa 300  
tgtcatatca aattatagtc cgatattact tttagatgaa cctacaaatc acttggataa 360  
aattggtaaa gattatctga ataatatTTT aaaatattac tatgggtactt taattatagt 420  
aagtcatgat agagcactta tagaccaaatt tgctgacaca atttgggata tacaagaaga 480  
tggcacaata agagtgttta aaggtaatta cacacagtat caaaatcaat atgaacaaga 540  
acagttagaa caacaacgtc aatatgaaca gtatataagt gaaaaacaaa gattgtccca 600  
agccagtaaa gctaaacgaa atcaagcgca acaaatggca caagcatcat caaaacaaaa 660  
aaataaaagt atagcaccag atcgtttaag tgcatcaaaa caaaaagg 708

<210> 850  
<211> 259  
<212> DNA  
<213> Staphylococcus aureus

<400> 850  
gatataggat acaaaataga agttgattgg atgccttcac gtatggaact taaacataaa 60

gaatatggat atttagatat tcatcccata aatctaaatg atgatgggtc aattactcaa 120  
gcaaaccccg aaggtggcaa ttacgttttt caaaatgaat ggttctcaga aactaattat 180  
aaaggccgaa aaataccatg tatttcaaaa gaagctcaac ttctttttca ttctgggttat 240  
gacttaacag aaaaagacc 259

<210> 851  
<211> 544  
<212> DNA  
<213> Staphylococcus aureus

<400> 851  
catttaacga cgaaactggc taaaataagt aaacaggtaa cgtctattga attagacagt 60  
catctattca acttatcgtc agaaaaatta aaactgaaca ttcgtgtcac tttaattcac 120  
caagatattc tacagtttca attccctaac aaacagaggt ataaaattgt tgggaatatt 180  
ccttaccatt taagcacaca aattattaaa aaagtgggtt ttgaaagcca tgcgtctgac 240  
atctatctga ttgttgaaga aggattctac aagcgtacct tggatattca ccgaacacta 300  
gggttgctct tgcacactca agtctcgatt cagcaattgc ttaagctgcc agcggaatgc 360  
tttcatccta aacaaaaagt aaacagtgtc ttaataaaaac ttaccgcgca taccacagat 420  
gttccagata aatattggaa gctatatacg tactttgttt caaaatgggt caatcgagaa 480  
tatcgtcaac tgtttactaa aaatcagttt catcaagcaa tgaaacacgc caaagtaaac 540  
aatt 544

<210> 852  
<211> 614  
<212> DNA  
<213> Staphylococcus aureus

<400> 852  
ccagaaaaac cctaaagaca cgcaaaatth tattacttct aaaaagcatg taaaagaaat 60  
attgaatcac acgaatatca gtaaacaaga caacgtaata gaaatcggat caggaaaagg 120  
acattttacc aaagagctag tcaaaatgag tcgatcagtt actgctatag aaattgatgg 180  
aggcttatgt caagtgacta aagaagcggg aaaccctctt gagaatataa aagtgattca 240  
aacggatatt ctaaaattht ccttcccaaa acatataaac tataagatat atggtaatat 300  
tccttataac atcagtacgg atattgtcaa aagaattacc tttgaaagtc aggctaaata 360  
tagctatctt atcgttgaga agggatttgc gaaaagattg caaaatctgc aacgagcttt 420

gggtttacta ttaatggtgg agatggatat aaaaatgctc aaaaaagtac caccactata 480  
ttttcatcct aagccaagtg tagactctgt attgattggt cttgaacgac atcaaccatt 540  
gatttcaaag aaggactaca aaaagtatcg atcttttggt tataagtggg taaaccgtga 600  
atatcgtggt cttt 614

<210> 853  
<211> 525  
<212> DNA  
<213> Enterococcus faecium

<400> 853  
gtccgaatcc tatgaaaatg taccctatag aaggaaacaa atcagtacaa tttatcaaac 60  
ctatttttaga aaaattagaa aatggtgagg ttggagaata ctcatattat gattctaaga 120  
atggagaaac ttttgataag caaatTTTTat atcattatcc aatcttaaac gataagttaa 180  
aaataggtaa attttgctca ataggaccag gtgtaactat tattatgaat ggagcaaadc 240  
atagaatgga tggctcaaca tatccattta atttatttgg taatggatgg gagaaacata 300  
tgccaaaatt agatcaacta cctattaagg gggatacaat aataggtaat gatgtatgga 360  
taggaaaaga tggtgtaatt atgccaggag taaaaatcgg ggatgggtgca atagtagctg 420  
ctaattctgt tggtgtaaaa gatatagcgc catacatggt agctggagga aatcctgcta 480  
acgaaataaa acaaagattt gatcaagata caataaatca gctgc 525

<210> 854  
<211> 467  
<212> DNA  
<213> Staphylococcus aureus

<400> 854  
cattagcagg aggatgtttc tgggtgcatgg ttaaaccatt tacatcatat ccaggcatca 60  
agtcagtcgt atctgggttat agtggcggtc atgttgacaa cccaacttat gaacaggtat 120  
gtacgaatca aaccggccat gtcgaagcag tacaaattac gtttgatcca gaggttactt 180  
cctttgaaaa tatattagac atatatttca aaacatttga cccaactgat gatcaagggc 240  
aattttttcga tagaggcgaa agctatcaac cagtcatttt ctatcatgat gaacatcaga 300  
aaaaggctgc tgagttttaa aagcaacaat taaatgaaca aggtattttc aagaaaccag 360  
tgattacacc tattaaacca tataaaaatt tctatccagc tgaagactac catcaagatt 420  
attacaaaaa gaaccgggta cattattacc aatatcaacg tgggttca 467

<210> 855  
<211> 451  
<212> DNA  
<213> *Staphylococcus aureus*

<400> 855  
gcatataaat atcaaaacca tacaagaaat aaaaaatgac tttcaaagaa gaatgaataa 60  
agttaaagaa acttatggtg tatcagatga attatggaac agatggaaac aatgggttaga 120  
aaacgacgaa ctatggcctc gacatgcgac catgatacat ggggacttac atccaggaca 180  
tataatggta gataaccaag caaacgtcac aggtctcata gactggactg aagcaacca 240  
ctccgacca tcaatggact ttatgggaca ccatcgtgta ttcgacgacg aaggattaga 300  
gcaactcata acagcatatg gtaaagctgg aggtgaaata tggccacgaa tgaaagagca 360  
tataatagaa ctcaatgcag tattcccaat gtttatcgct gagtttgcta tggaatcagg 420  
agaatcggcg tatgaaacga tggcattgaa a 451

<210> 856  
<211> 505  
<212> DNA  
<213> *Streptococcus pyogenes*

<400> 856  
ggctctgtct atggcttcac tattaggttt tttaccctat gcggtctttg gacctgcaat 60  
tggtgtgcta gtggatcgtc atgataggaa gaagataatg attggtgctg atttaattat 120  
cgcagcagct ggttcggtgc ttactattgt tgcattctat atggagctac ctgtctggat 180  
ggttatgata gtattgttta tccgtagcat tggaacagct tttcacaccc cggctctcaa 240  
tgcggttacg ccacttttag taccagaaga acagcttacg aaatgtgcag gctatagtca 300  
gtctttgcag tctataagct atattgtag tccggcggtt gcagcactct tatactccgt 360  
ttgggaacta aatgctatta ttgccatcga tgtattgggt gctgtgattg catctattac 420  
ggtagcaatt gtacgtatcc ctaagctggg tgatcgcgtg caaagtttg acccaaattt 480  
cataagagaa atgcaagaag gaatg 505

<210> 857  
<211> 540  
<212> DNA  
<213> *Escherichia coli*

<400> 857



gttgagaatg ggagagactg agccgggtcag cagtcccacg agcgcgccca acaacatcag 60  
caccggcacg cctggcaact gtgaaagcag aagcgagccc accgcagagc cacaaaatgc 120  
caccgccagc cagttctgcg ctgatatccg ggcgccgacc gacgcatgaa tggcaatgcc 180  
aaggagacca ccagccccc t cattgagga gaacagcccc agctctgcta cttggcgctcc 240  
tgcatctaca aacagcgagc gcatgatgac gctgccgttg gcgccaacga tgcccacgaa 300  
gatcatcact ataccaaaga gagggcgagc caggggttcg ctccagagaa aagcgacgcc 360  
ggcgcgcatg gagagagtcg ccgtcgtggt catcgctcga gcggcacgcg cgggaagcac 420  
ccacgcgccc agcagacctg caaggacgga gcagaacgcc gtcagcccga gcgttggcgc 480  
agcgccaagc aggccgattg cggccccccc aagggccggg ccacctagaa tcgcgacgtt 540

<210> 858  
<211> 500  
<212> DNA  
<213> *Streptococcus pneumoniae*

<400> 858  
actaagaaaa tcgtagctat ttgggcccag gatgaagagg gtgtgattgg gaaagacaat 60  
cgtctacctt ggcatttacc agcagaactg caacacttca aagaaacaac tctgaatcat 120  
gctatcttga tggggcgggg aacctttgat ggaatagggc gtcgcttgct tccacaacgg 180  
gagactttga ttttgacacg taacctagaa gaaacgatag atgggggttg tacttttcat 240  
gatgtccagt ctgtcttgga ctggtatcag gctcaagaaa agaattctta tattcttggt 300  
ggaaagcaga tttttcaggc ttttgaacct tatcttgacg aagtgattgt gactcacatt 360  
catgctcggg tggagggaga tacctatttc cctgaagagt ttgatttgct tctttttgag 420  
acagtttcaa gtaaatttta cgccaaagat gagaagaatc cttatgattt taccatccaa 480  
tatcgcaaga gaaaggaagt 500

<210> 859  
<211> 423  
<212> DNA  
<213> *Staphylococcus aureus*

<400> 859  
caattacctt ggcacttacc aatgattta aagcatatta aacaactgac cactgggaat 60  
acacttgtaa tggcacggaa aacttttaat tctataggga agccattgcc aaatagacgt 120  
aacgtcgtac tcactaacca agcttcattt caccatgaag gggtagatgt tataaactct 180

cttgatgaaa ttaaagagtt atctggatcat gtttttatat ttggaggaca aacgttatac 240  
gaagcaatga ttgaccaggt agatgatatg tatatcacag taatagatgg aaagtttcaa 300  
ggagacacat tctttccacc atacacattc gaaaactggg aagtcgaatc ttcagtagaa 360  
ggtcaactag atgaaaaaaaa tactataccg catacattct tacatttagt gcgtagaaaa 420  
ggg 423

<210> 860  
<211> 506  
<212> DNA  
<213> Escherichia coli

<400> 860  
tggaatgggt agcttcttcg tctttttctc cattgcgccc ggactaatga tgggcaggca 60  
agggtgtgtct cagcttggct tcagcctgct gttcgccaca gtggcaattg ccatggtggt 120  
tacggctcgt tttatggggc gtgtgatacc caagtggggc agcccaagtg tcttgcgaat 180  
gggaatggga tgcctgatag ctggagcagt attgcttgcc atcacgaaa tatgggcttc 240  
gcagtccgtg ttaggcttta ttgctccaat gtggctagtg ggtattggtg tcgccacagc 300  
ggtatctgtg tcgcccaatg gcgctcttcg aggattcgac catgttgctg gaacggtcac 360  
ggcagtctac ttctgcttgg gcggtgtact gctaggaagc atcggaacgt tgatcatttc 420  
gctgttgccg cgcaacacgg cttggccggt tgctcgtgtac tgtttgacct ttgcaacagt 480  
cgtgctcgggt ctgtcttgtg tttccc 506

<210> 861  
<211> 530  
<212> DNA  
<213> Enterococcus faecium

<400> 861  
gataaccatc acaaacagaa tgatgtacct gtaaagatag cggtaaatat attgaattac 60  
ctttattaat gaattttcct gctgtaataa tgggtagaag gtaattacta ttattattga 120  
tatttaagtt aaaccagta aatgaagtcc atggaataat agaaagagaa aaagcatttt 180  
caggatatagg tgttttggga aacaatttcc ccgaaccatt atatttctct acatcagaaa 240  
ggtataaatc ataaaactct ttgaagtcac tctttacagg agtccaaata ccagagaatg 300  
ttttagatac accatcaaaa attgtataaa gtggctctaa cttatcccaa taacctaaact 360  
ctccgtcgtc attgtaacca gttctaaaag ctgtatttga gtttatcacc cttgtcacta 420

agaaaataaa tgcagggtaa aatttatatc cttcttggtt tatgtttcgg tataaaacac 480  
taatatcaat ttctgtggtt atactaaaag tcgtttgttg gttcaaataa 530

<210> 862  
<211> 535  
<212> DNA  
<213> Staphylococcus aureus

<400> 862  
agaaaattgg gatagaaaag aatattttga acactatttt aaccagcaaa ctacgtatag 60  
cattactaaa gaaattgata ttactttggt taaagatatg agtaaaaaga aaggatatga 120  
aatttatcct tctttgattt atgcaattat ggaagttgta aataaaaata aagtgtttag 180  
aacaggaatt aatagtgaga ataaattagg ttattgggat aagttaaata ctttgtatac 240  
agtttttaat aagcaaactg aaaaatttac taacatttgg actgaatctg ataacaactt 300  
cacttctttt tataataatt ataaaaatga cttgcttgaa tataaagata aagaagaaat 360  
gtttcctaaa aaaccgatac ctgaaaacac cctaccgatt tcaatgattc cttggattga 420  
ttttagttca ttttaatttaa acattggtaa caatagcaac tttttattgc ctattattac 480  
gataggtaaa ttttatagtg agaataataa aatttatata ccagttgcct tgcag 535

<210> 863  
<211> 632  
<212> DNA  
<213> Proteus mirabilis

<400> 863  
ttagcactct atgcgacgat gcaggatgat ttgcaccta ttttaggaaa attatcagat 60  
aaatatggca gaaaacctat tttattaatt tcgctattgg gtgccgcatt agattaccta 120  
ttaatggctt gcccacctc attatggatg ctctacattg gacgaataat tgcgggtata 180  
acaggagcca ctggtgcagt atgcgcatca gcaatgactg atgtaactca tcctcatgaa 240  
agaacacgct atttcggttt tttgggtggt gcatttggtg tgggtttaat tattggcccc 300  
atgttagggg gattactcgg tgagatcagc gccatacgc catttatctt tgcggctatt 360  
tctcattcgt tattatttat attttcatta ctttgtttcc aagaaactca aaccacaaaa 420  
atttcgactg aaatatccgc attaaatcag gatacagcgc ctactctac cactgggttt 480  
attaaaaaga gtctcttttt ttggcttatt gcctatttta ttattcaact aatagggcaa 540  
attccggcca ctatttggtt gctattcaca caagttcgtt tcgcttggca cactactgaa 600

gtaggtttat ctcttgcatt tcttggtgta tt 632

<210> 864  
<211> 656  
<212> DNA  
<213> Enterococcus faecalis

<400> 864  
cacctgcgag tacaaactgg gtgaacacag cctttatggt aaccttttcc attggaacag 60  
ctgtatatgg aaagctatct gatcaattag gcatcaaaag gttactccta tttggaatta 120  
taataaattg tttcgggtcg gtaattgggt ttggtggcca ttctttcttt tccttactta 180  
ttatggctcg ttttattcaa ggggctgggt cagctgcatt tccagcactc gtaatgggtg 240  
tagttgcgcg ctatatcca aaggaaaata ggggtaaagc atttgggtctt attggatcga 300  
tagtagccat gggagaagga gtcgggtccag cgattgggtgg aatgatagcc cattatatcc 360  
attgggtccta tcttctactc attcctatga taacaattat cactgttccg tttcttatga 420  
aattattaaa gaaagaagta aggataaaag gtcattttga tatcaaagga attatactaa 480  
tgtctgtagg cattgtatct tttatgttgt ttacaacatc atatagcatt tcttttctta 540  
tcgttagcgt gctgtcattc ctgatatttg taaaacatat caggaaagta acagatcctt 600  
ttgttgatcc cggattaggg aaaaatatac cttttatgat tggagtctct tgtggg 656

<210> 865  
<211> 554  
<212> DNA  
<213> Enterococcus faecalis

<400> 865  
gacaaaggta caacgaggac ggataatacg cttttagaac gtcagagagg aattacaatt 60  
cagacaggaa taacctcttt tcagtgggaa aatacgaagg tgaacatcat agacacgcca 120  
ggacatatgg atttcttagc agaagtatat cgttcattat cagttttaga tggggcaatt 180  
ctactgattt ctgcaaaaga tggcgtacaa gcacgaactc gtatattatt tcatgcactt 240  
aggaaaatgg ggattccac aatctttttt atcaataaga ttgaccaaaa tgggaattgat 300  
ttatcaacgg tttatcagga tattaaagag aaactttctg ccgaaattgt aatcaaacag 360  
aaggtagaac tgtatcctaa tgtgtgtgtg acgaacttta ccgaatctga acaatgggat 420  
acggtaatag agggaaacga tgaccttta gagaaatata tgtccggtaa atcattagaa 480  
gcattggaac tcgaacaaga ggaaagcata agatttcaga attgttctct gttccctctt 540

tatcatggaa gtgc

554

<210> 866  
<211> 404  
<212> DNA  
<213> Enterococcus faecium

<400> 866  
tcttatggca gtacgcaacg taaaatcgat tgtgcgctct gtggaaaaac atgatttcag 60  
gttggacagc gaccgtggca aggtactcag cgacatgaca gttggtgtgg tgggaacggg 120  
ccagataggc aaagcggtta ttgagcggct gcgaggattt ggatgtaaag tgttggctta 180  
tagtcgcagc cgaagtatag aggtaaacta tgtaccgttt gatgagttgc tgcaaaatag 240  
cgatatcggt acgcttcatt tgccgctcaa tacggatacg cactatatta tcagccacga 300  
acaaatacag agaatgaagc aaggagcatt tcttatcaat actgggcgcg gtccacttgt 360  
agatacctat gaggttggtta aagcattaga aaacgggaaa ctgg 404

<210> 867  
<211> 250  
<212> DNA  
<213> Enterococcus faecium

<400> 867  
gtgcggtatt gggaaacagt gccgcgtag ttggtggcga ggtggaccaa atcaggctgc 60  
agtacggaat ctttcgtatt catcaggaag tcgagccgga aaaaggctct gaaaacgcag 120  
ttataaccgt tcccgcagac ctttcagcag aggagcgagg acggatacag gaaacggcaa 180  
aaaaaatata taaagcgctc ggctgtagag gtctagcccc tgtggatatg tttttacaag 240  
ataacggccg 250

<210> 868  
<211> 663  
<212> DNA  
<213> Enterococcus faecium

<400> 868  
aagtgtgggc attactgttt ttggatgcga acaggatgag gcaaattgctt tccgcgcttt 60  
atcgccggat tttcatatta tccctacgct gattagcgat gcgatatcgg cagacaacgc 120  
aaaattggcc gctggcaatc aatgcgtag cgtaggccat aagtccgagg tttccgaggc 180  
gacaattctt gcgctgagaa aggtcgggggt aaaatacatt tctacccgca gcatcggctg 240  
cgatcacatt gatacgactg ccgccgagag aatgggaatc tcggttggca cggttgcgta 300

ttcgccggac agcggttgcgg attatgcttt gatgctgatg ctgatggcca tacgggggtgc 360  
aaaaccacc atgcacgccg tggcgcaaca agatttcaga ttggatcgta tccgggggaa 420  
agaactgggg gatatgactg tgggagttat tggaaccggc catatcgggc aagcggtcgt 480  
caaaaggctg cggggatttg gatgccatgt gctggcctat gataacagcc gaaaaatgga 540  
tgcagattat gtccagcttg atgagcttct aaaaaacagc gatattgtta cgctccatgt 600  
gccgctttgt gcggataccc gccatctgat cggtcagaag caaattggag agatgaagca 660  
agg 663

<210> 869  
<211> 572  
<212> DNA  
<213> Enterococcus faecium

<400> 869  
acgagaatta tacggttttc aaatactata ccgccaaaga agcattggaa tgtatagaca 60  
agtctgagat tgaccttgcc atattggaca tcatgcttcc cggcacaagc ggccttacta 120  
tctgtcaaaa aataagggac aagcacacct atccgattat catgctgacc gggaaagata 180  
cagaggtaga taaaattaca gggttaacaa tcggcgcgga tgattatata acgaagccct 240  
ttcgcccact ggagttaatt gctcgggtaa aggcccagtt gcgccgatac aaaaaattca 300  
gtggagtaaa ggagcagaac gaaaatgtta tcgtccactc cggccttgtc attaattgta 360  
acacccatga gtgttatctg aacgagaagc agttatccct tactcccacc gagttttcaa 420  
tactgcgaat cctctgtgaa aacaagggga atgtgggttag ctccgagctg ctatttcatg 480  
agatatgggg cgacgaatat ttcagcaaga gcaacaacac catcaccgtg catatccggc 540  
atttgcgga aaaaatgaac gacaccattg at 572

<210> 870  
<211> 280  
<212> DNA  
<213> Enterococcus faecium

<400> 870  
gaattctact tgtcgaggat gatgatcata tctgtaatac agtaagggcg tttctggctg 60  
aggcaggata tcagggtgat gcctgcacag atggaaatga ggcatacacc aagttttacg 120  
aaaacactta tcaactggtt attcttgata ttatgctgcc cggtatgaac gggcatgaac 180  
ttttgcgtga atttcgtgcg aaaaatgata ctcccattct gatgatgaca gccctgtcgg 240



atgacgaaaa ccaaaccg gcgtttgatg cagaggcaga 280

<210> 871  
<211> 564  
<212> DNA  
<213> Enterococcus faecium

<400> 871  
aatgatccga gggaaacttg gggattggat cttaagtatt ttggaaaaca aatatgactt 60  
aatcacctg gacgcgatga aattatatca atattccata cggaacaata tagatatctt 120  
tatttatgtg gcgattgtca ttagtattct tattctatgt cgcgtcatgc tttcaaaatt 180  
cgcaaaatac tttgacgaga taaataccgg cattgatgta cttattcaga acgaagataa 240  
acaaattgag ctttctgcgg aaatggatgt tatggaacaa aagctcaaca cattaaaacg 300  
gactctggaa aagcgagagc aggatgcaaa gctggccgaa caaagaaaa atgacgttgt 360  
tatgtacttg gcgcacgata ttaaaacgcc cttacatcc attatcggtt atttgagcct 420  
gcttgacgag gctccagaca tgccggtaga tcaaaaggca aagtatgtgc atatcacgtt 480  
ggacaaagcg tatcgactcg aacagctaata cgacgagttt tttgagatta cacgggtataa 540  
cctacaaacg ataacgctaa caaa 564

<210> 872  
<211> 595  
<212> DNA  
<213> Enterococcus faecium

<400> 872  
acatgagttg gaggaacac agcgatatct ctttgccgca gcttctcatg agctaaaaac 60  
gcccatcgcg gctacaagcg ttctgttggg gggaaatgctt gaaaatatcg gtgactacaa 120  
agatcattct aagtatctgc gcgaatgcat caaaatgatg gataggcagg gcaaaatcat 180  
ttccgaaata ctggagcttg tcagcctgaa tgatgggaga atcgtaccca tagctgaacc 240  
gttggacata gggcgacagg ttgccgagtt gctgcccgat tttcaaacct tggcagaggc 300  
aaacaaccag cggttcgtca cagatatcc agccgggcaa attgtcctgt ccgatccgag 360  
gctgctcaa aaggcactat ccaatgtcat attgaatgca gttcagaaca cgccgcaggg 420  
aggcgaggta cggatatgga gtgagcctgg tgctgaaaaa tgccgccttt ttgttttgaa 480  
catgggcgtt cacattgatg atactgcgt tccaaggctg ttcaccccat tctatcgcat 540  
tgatcaggcg cgaagcagaa aaagtgggag aagcggttta ggacttgcca tcgta 595

<210> 873  
<211> 598  
<212> DNA  
<213> *Enterococcus faecium*

<400> 873  
ggcagcaaag accttaaacg gcttattgat aagaccgggg gaaacctttt ctttctggtg 60  
gctggtacgc catgcggaca aagatacccc ctataaagac ggccttacgg tgaccaatgg 120  
taaactcacc accatgtcgg gcggcggtat gtgccagatg agcaatttac tattttggat 180  
gttcctgcat acgccattga caattatcca gcgcagaggt cacgaagtaa aggagtttcc 240  
agagccaaac agtgacgaga ttaaaggggt ggatgcaacc atttcagagg gctggattga 300  
tttaaaagtg cgaaacgata ccgactgcac ctaccaaata tgggtgacct tagatgatga 360  
gaaaatcatc ggtcaggtgt ccgccgacaa agagcccca gcattataca aaattacaaa 420  
tggcagtatc cagtatgtcc gtgaaagtgg cgggatttat gaatatgcc aggttaaacg 480  
gatgcaagtt gccttaggta ccggggaaat aatagattgc aagctgcttt atacaaacaa 540  
atgcaaaatc tgttatcccc tcccggaaag tgtggatatt caggaggaga accaatga 598

<210> 874  
<211> 673  
<212> DNA  
<213> *Enterococcus faecalis*

<400> 874  
gaagatggaa caattcaagg attcatggaa accattaata tgccttatgt aggcgcgggt 60  
gtcttagcta gcgttaacgc aatggacaaa atcatgacga aatatctttt acaaactgtt 120  
ggcattccac aagtaccatt cgtgccagtt ttaagaagtg actggaaagg aaatccaaaa 180  
gaagtctttg aaaaatgtga aggttcttta atttatccgg tctttgttaa acctgccaat 240  
atgggttcta gtgtcggaat tagcaaagtg gaaaatcgtg aagaattgca agaagcattg 300  
gaagaagctt tccgttatga tgcccagaca attgttgaac aagggatcga agcacgtgaa 360  
attgaagtag ccatttttagg aaatgaagat gtccgtacga ctttacctgg tgaagtgggtg 420  
aaagatgtcg ctttctatga ttatgatgca aaatacatca ataacacgat tgaaatgcaa 480  
atcccagcgc atgttccaga agaagtagct catcaagcgc aagaatacgc taaaaaagcg 540  
tatattatgt tagatggaag tggcttaagt cgctgtgatt tcttcttaac aagcaaaaac 600  
gaattattcc tgaatgaatt gaacaccatg cctggtttta ctgactttag tatgtatcct 660

ttactgtggg aaa

673

<210> 875  
<211> 360  
<212> DNA  
<213> Staphylococcus aureus

<400> 875  
tacagtctat ccgggcattg ccagtcgggg atattaaaaa gagtataggt ttttattgcg 60  
ataaactagg tttcactttg gttcaccatg aagatggatt cgcagttcta atgtgtaatg 120  
aggttcggat tcatctatgg gaggcaagtg atgaaggctg gcgctctcgt agtaatgatt 180  
caccggtttg tacaggtgcg gagtcgttta ttgctggtag tgctagttgc cgcattgaag 240  
tagaggggaat tgatgaatta tatcaacata ttaagccttt gggcattttg caccccaata 300  
catcattaaa agatcagtgg tgggatgaac gagactttgc agtaattgat cccgacaaca 360

<210> 876  
<211> 508  
<212> DNA  
<213> Enterococcus faecium

<400> 876  
tgggataact tcacaggaaa accggtggat gggatatgagg tgaatcgcat catcggcaca 60  
aaggccgtgg cgtttgctct gcgcgaggca caaatccatg cggctgcgct tggctatggc 120  
ttgcttttat gggatggata tcggccaaga actgcggtgg actgcttcct gcgttgggca 180  
gcgcaaccgg aggacaatct cacaaaagaa aaattttacc ccaatataga gcgagccgag 240  
ttgattacaa agggttatgt ggccctcaca tccagccata gccgtggaag cgcaattgat 300  
cttacgctct accacctgga tacaggggaa cttgtttcaa tgggaagtaa cttcgatttt 360  
atggacgaac ggtcgcacat tacagcaaaa gggatagggg atgcagaggc acaaaatcga 420  
agatgcttgc gtaaaatcat ggaaagcagc ggatttcagt cttatcgctt tgaatggtgg 480  
cactataagt tgattgatga gccatacc 508

<210> 877  
<211> 551  
<212> DNA  
<213> Enterococcus faecium

<400> 877  
atacttaggt tatgactacg ttaatgaagc actgttttct caggaaaaag tcgaatttca 60

aaattatgat caaaatccca aagaacattt agaaaatagt gggacttctg aaaataccca 120  
agagaaaaca attacagaag aacaggttta tcaaggaaat ctgctattaa tcaatagtaa 180  
atatcctggt cgccaagaaa gtgtgaagtc agatatcgtg aatttatcta aacatgacga 240  
attaataaat ggatacgggt tgcttgatag taatatattat atgtcaaaag aaatagcaca 300  
aaaattttca gagatgggtca atgatgctgt aaaggggtggc gttagtcatt ttattattaa 360  
tagtggtat cgagactttg atgagcaaag tgtgctttac caagaaatgg gggctgagta 420  
tgccttacca gcaggttata gtgagcataa ttcaggttta tcactagatg taggatcaag 480  
cttgacgaaa atggaacgag cccctgaagg aaagtggata gaagaaaatg cttggaaata 540  
cgggttcatt t 551

<210> 878  
<211> 552  
<212> DNA  
<213> Enterococcus faecium

<400> 878  
gtgcgttcat tatttcgttc acagtctgca cgctgttttt ggggtggaga ctggcttcg 60  
tattggaggc aacacagata ccgccatcc ctgcaactca tacaggcagc agcactgacg 120  
tagtgagaa tttggaggaa aacgctcttg ccaccgcaa agaacaggga gatgaacagg 180  
aatggagcct gatttttagtg aacaggcaga accccatccc cgcacagtac gatgtggagc 240  
ttgagcaact atcaaagtgt gagcggatag atattcggat ttctccctat cttcaagatt 300  
tgtttgatgc cgcaagaact gatggagttt acccgattgt cgcacccgga taccgaacaa 360  
cagaaaaaca gcaagaaatt atggatgaaa aaattgccga atataaggcg aaaggctaca 420  
cctctgcaca ggctaaagcg gaagcagaaa cttgggtggc cgtgccggga acgagcgagc 480  
atcagcttgg tcttgctgtg gatatcaatg cggacggaat tcattcaaca ggcaacgagg 540  
tttatagatg gc 552

<210> 879  
<211> 542  
<212> DNA  
<213> Enterococcus faecalis

<400> 879  
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tcactggcct acattcttac aaaaaatgcg ggcacgccc tccccgaatt tcaaatgatt 120

gaaaaagggtg acaaaccgga ggcgaggacg cttacctacc ctgtctttgt gaagccggca 180  
cggtcagggtt cgtccttttg cgtaaccaa gtaaacagta cggaagaact aaacgctgcg 240  
atagaagcag caggacaata tgatggaaaa atcttaattg agcaagcgat ttcgggctgt 300  
gaggtcggct gcgcgggtcat gggaaacgag gatgatttga ttgtcggcga agtggatcaa 360  
atccgggttga gccacgggtat cttccgcac caccaggaaa acgagccgga aaaaggctca 420  
gagaatgcga tgattatcgt tccagcagac attccggctg aggaacgaaa tcgggtgcaa 480  
gaaacggcaa agaaagtata tcgggtgctt ggatgcagag ggcttgctcg tgttgatctt 540  
tt 542

<210> 880  
<211> 457  
<212> DNA  
<213> Enterococcus faecium

<400> 880  
aggattgcta gctttatatt tagtgacact aatctgggtta gtgttattca aattacaata 60  
caatatctta tcagtattta attatcatca aagaagtctt aacttgactc catttactgc 120  
tactgggaat ttcagagaga tgatagataa tggtataatc tttattccat ttggcttgct 180  
tttgaatgtc aattttaaag aaatcggatt tttacctaa tttgcttttg tactggtttt 240  
aagtcttact tttgaaataa ttcaatttat cttcgctatt ggagcgacag acataacaga 300  
tgtaattaca aatactgttg gaggctttct tggactgaaa ttatatggtt taagcaataa 360  
gcatatgaat caaaaaaat tagacagagt tattatcttt gtaggtatac ttttgctcgt 420  
attattgctc gtttaccgta cccatttaag aataaat 457

<210> 881  
<211> 360  
<212> DNA  
<213> Enterococcus flavescens

<400> 881  
aagctgcctt atgtagggtg cgggggtggcc gggtctgcct tatgtatgaa caaatggctg 60  
ctgcatcaag ctgcagcagc cattggcgta caaagtgtc ctacgattct cttgacaaat 120  
caagccaacc agcaagaaca aatcgaagct tttatccaga cccatggctt tccagttttc 180  
tttaagccta atgaagcggg ctctcaaaa gggatcacta aagtcacctg cgttgaagaa 240  
atcgcttctg ccttaaaaga agcctttact tattgttccg cagtgtcctt acaaaaaaat 300

attgccggtg ttgagatcgg ttgcggtatt ttgggcaacg actctttgac tgcggtgct 360

<210> 882  
<211> 459  
<212> DNA  
<213> *Enterococcus faecium*

<400> 882  
gacatacag ttggctgaat cgcttttgaa ggcaaaagaa ctggctgcta cccaagggta 60  
cggattgctt ctatgggacg gttaccgtcc taagcgtgct gtaaactggt ttatgcaatg 120  
ggctgcacag ccggaaaata acctgacaaa ggaaagttat tatccaata ttgaccgaac 180  
tgagatgatt tcaaaaggat acgtggcttc aaaatcaagc catagccgcg gcagtgccat 240  
tgatcttacg ctttatcgat tagacacggg tgagcttgta ccaatgggga gccgatttga 300  
ttttatggat gaacgctctc atcatgcggc aaatggaata tcatgcaatg aagcgcaaaa 360  
tcgcagacgt ttgcgctcca tcatggaaaa cagtgggttt gaagcatata gcctcgaatg 420  
gtggcactat gtattaagag acgaaccata cccaatag 459

<210> 883  
<211> 500  
<212> DNA  
<213> *Proteus mirabilis*

<400> 883  
cctttgaagc tggactgac cctgatattg cgcaagtcca agtgcaaaat aaattgcaat 60  
tggcaatgcc tcttttacct caggaagtac aacaacaagg gattagtgtc gataaatctt 120  
ctagttcatt cttaatgggt gcaggtttta tctctggtga tggctcgatg tcacaagatg 180  
acatcgccga ctatgtaggt gcaacaatta aagatccatt aagccgtgtc acaggggtgg 240  
gtgaaacgca gttatttggt acacaatacg caatgcgtat ttgggttagat ccagataaac 300  
tggtgaaata taacatgacc acacttgatg ttattaatgc gattaaatcg caaaataacc 360  
aagtggcggc aggccaatta ggtggtagcg caccagtgcc tggtcagcgt ttaaatgtat 420  
ctatcattgc gcaaactcga cttatacac ctgagcaatt tgctgatatt ctgatgaaag 480  
tcaatcaaga cggttcacag 500

<210> 884  
<211> 280  
<212> DNA  
<213> *Pseudomonas aeruginosa*



<400> 884  
tgtcgaagtt ttccattgat aggcccatTT tcgcgtgggt gatcgcccttg gtgatcatgc 60  
tcgcggggcgg cctgtcgatc ctcaatctgc cggTcaacca gtaccgcggc atcgccccgc 120  
cggccatcgc cgtgcaggTg agctaccgcg gcgcctcggc cgagacggTg caggacaccg 180  
tggtccaggT gatcgagcag cagatgaacg ggatcgacaa tctgcgctac atctcctcgg 240  
agagtaactc cgacgggcgc atgaccatca ccgtgacctt 280

<210> 885  
<211> 477  
<212> DNA  
<213> *Staphylococcus aureus*

<400> 885  
caatgggttac aggttgtgga agaactttct ccttttaaag ctggcttata cctattacct 60  
atggcaatag gagctatggt gtttgcacca attgcacccg gattagcggc gcgatttgga 120  
ccgaaaatag tgttaccttc cgaattgga attgcagcca ttggcatggt tattatgtat 180  
ttctttggTc atccattatc atattctaca atggcttttag cattaatttt agttgaagct 240  
ggtacggctt cactagcagt tgcactctgt ctaataatgt tagaaacacc tacatcaaaa 300  
gcaggtaatg cagctgctgt tgaagagtct atgtatgacc ttggaaatgt ttttggTgta 360  
gcagtacttg gtagcctatc ttctatgctt tatcgtgtat ttttagatat ttcacttttt 420  
tcatcaaaaag gtatagttgg agatttagct catgtagctg aagaatctgt agtgggc 477

<210> 886  
<211> 584  
<212> DNA  
<213> *Escherichia coli*

<400> 886  
ctcttagacg ccctgtccga tcagatgcac cgtgtttcaa tcgacagctt ccaaccggaa 60  
accagcgt atgcgtcaa gcgcggcgtg ggctacctga acgatatcca aggatttcct 120  
gacctgcgc tctatcccga tattgctgag gcggactgca ggctggTggt tatgcactca 180  
gcgcagcggg atggcatcgc caccgcacc ggTcaccttc gaccgaaga cgcgctcgac 240  
gagattgtgc ggttcttcga ggcgcgggtt tccgccttgc gacggagcgg ggTcgtgcc 300  
gaccggctca tcctcgatcc ggggatggga ttttcttga gccccgcacc ggaaacatcg 360  
ctgcacgtgc tgtcgaacct tcaaaagctg aagtcggcgt tggggcttcc gctattggTc 420  
tcggtgtcgc ggaaatcctt cttgggcgc ccggttgGCC ttctgtaaa ggatctgggt 480

ccagcgagcc ttgcggcgga acttcacgcg atcggcaatg gcgctgacta cgccgcacc 540  
cacgcgcctg gagatctgcg aagcgcaatc accttctcgg aaac 584

<210> 887  
<211> 784  
<212> DNA  
<213> *Escherichia coli*

<400> 887  
catcgtcaac ataacctcgg acagtttctc cgatggaggc cggatatctgg cgccagacgc 60  
agccattgcg caggcgcgta agctgatggc cgaggggggca gatgtgatcg acctcggtcc 120  
ggcatccagc aatcccgacg ccgcgcctgt ttcgccgac acagaaatcg cgcgtatcgc 180  
gccggtgctg gacgcgctca aggcagatgg cattcccgtc tcgctcgaca gttatcacc 240  
cgcgacgcaa gcctatgcct tgcgcgctgg tgtggcctat ctcaatgata ttgcggttt 300  
tccagacgct gcgttctatc cgcaattggc gaaatcatct gccaaactcg tcgttatgca 360  
ttcggtgcaa gacgggcagg cagatcggcg cgaggcacc gctggcgaca tcatggatca 420  
cattgcggcg ttctttgacg cgcgcacgc ggcgctgacg ggtgccggta tcaaacgcaa 480  
ccgccttgtc cttgatcccg gcatgggggt ttttctgggg gctgctcccg aaacctcgt 540  
ctcggtgctg gcgcggttcg atgaattgcg gctgcgcttc gatttgccgg tgcttctgtc 600  
tgtttcgcgc aaatcctttc tgcgcgcgct cacaggccgt ggtccggggg atgtcggggc 660  
cgcgacactc gctgcagagc ttgcgcgcgc cgcaggtgga gctgacttca tccgcacaca 720  
cgagccgcgc cccttgcgcg acgggctggc ggtattggcg gcgctgaaag aaaccgcaag 780  
aatt 784

<210> 888  
<211> 344  
<212> DNA  
<213> *Staphylococcus lugdunensis*

<400> 888  
gagggtgaat tatgattcag actattgtaa ctgctgctat ctttatattg cgcaagcatt 60  
agacttatta gtgattttat taatgttctt tgctagagca aagactagga aagaatatcg 120  
agatatttat attggtcaat atgtaggac tgtggcatta attgtcataa gtttattctt 180  
tgcccttgtc ttaaattatg ttcccgaaaa atggatatta ggattattag ggttaatacc 240  
gatttattta ggaattaaag tggctattta tggatagatg gacggagaag agagagctaa 300

aaaagaattg aatgaaaagg gattgtctaa attagttggt acga 344

<210> 889  
<211> 503  
<212> DNA  
<213> *Pseudomonas aeruginosa*

<400> 889  
ctcgacccga tctacgtcga cgtcaccag ccgtccaccg ccctgttgcg catgcgccgc 60  
gaactggcca gcggccagtt ggagcgcgcc ggcgacaacg ctgcgaaggt ctccctgaag 120  
ctggaggacg gtagccaata cccgctggaa ggccgcctcg aattctccga ggtttccgtc 180  
gacgaaggca ccggctcggc caccatccgc gccgtgttcc ccaacccgaa caacgagctg 240  
ctgcccggca tgttcgttca cgcgcagttg caggaaggcg tcaagcagaa ggccatcctc 300  
gctccgcagc aaggcgtgac ccgcgacctc aagggccagg ctaccgcgct ggtggtgaac 360  
gcgcagaaca aggtcgagct gcgggtgatc aaggccgacc gggatgatcg cgacaagtgg 420  
ctggtcaccg aaggcctgaa cgccggcgac aagatcatta ccgaaggcct gcagttcgtg 480  
cagccgggtg tcgaggtgaa gac 503

<210> 890  
<211> 503  
<212> DNA  
<213> *Proteus mirabilis*

<400> 890  
tgtcatcata gctcttaaca taatcgcggc tcttcttaaa tcaagggttg caggaagttg 60  
ttttttttcg atacagcgag ataaagattg ctctattcta gagtaatcg ctgcacataa 120  
ttctcggcgg atttcaacaa ttggtgtcat ttcaccaaca aattcgact tatggaaata 180  
tatttctaga agtgcattat gtttcggatc ttcgacaatt gatgtcaata tgtaaataag 240  
caattctctt aatacaaata gtggatcatc tggatatctt gattgatact ctaattctaa 300  
tgattctatt ttttaagtcg tgagttcaca cgcttcagta aataaatcca ctttattctt 360  
aaagtgccaa tatattgcac ctcgagttac tccggcctcg gttgcaatat ctgaaagtga 420  
tgtggcagaa acaccttgca cagtaaatag cctaagtgca gcatcaataa tctgctgtct 480  
tgtctcttgt gcttggcggt tag 503

<210> 891  
<211> 343

<212> DNA  
<213> Enterococcus faecalis

<400> 891  
gaccaggagt tgggtggtttt attgcttatt taggaattcg cgctccattt tttgcggccg 60  
catttttagc gtttattggt tttattttga cattaactgt tttgaaggag ccagagaaac 120  
gaatttttagc cgctggtgaa gcgaaaaaag gttcatttat ggatatttta agaaatccaa 180  
tgtttacctc attatttgtg attatcttaa tttcctcttt tggcctgcaa gcgttcgaat 240  
ctatttatag tattatggcg accattaatt ttggctttac cacaagtga atagcaatcg 300  
tgattacggt tagtggtatt ttagcggtga tttgtcagct gtt 343

<210> 892  
<211> 544  
<212> DNA  
<213> Proteus mirabilis

<400> 892  
ctggctctgt tagtgctttc aggcagcttg gttgttgctg gatgtggcga caaaaatcag 60  
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ctgactatca caacagactt acctggctgt acatctgctt atcgtatcgc agaggttcgc 180  
cctcagggttg gcggcatcat cttaaaacgc aattacaccg aaggtagtta tgtagaagca 240  
ggaacatctt tataccaaat cgatcctgct atttttcaag ctacattaaa cagtgtctca 300  
gctgatttag caaaagcgaa agcgaatgct gaaattgctc gtctgactgt agagcgctat 360  
aaacctctac tcggcaccaa ttatgtcagt aaacaagatt ttgataccgc aacatctcag 420  
tacgtcaag ctgttgctgc agtaaaagca gctgaagcta cagtgactaa tgcaaaaatt 480  
aatcttgaat ataccaaagt caccgcacca atttctggcc gttcaggtaa atcaacggta 540  
acag 544

<210> 893  
<211> 573  
<212> DNA  
<213> Proteus vulgaris

<400> 893  
cctgaaatcc actactgacc ggctccagcc gctgacctta gatacctgcc agcaagctaa 60  
ccccgaactg accgcccgcg cagcgtttag catgaatgtc cgaacgtttg tgctggtgaa 120  
agataaaaaa acattctggt catctgcgac cggtgagatg gacattccac tcaatgaatt 180

gattccggcg ctcgacatta ataaaaacgt cgatatggcg atcttaccg gcacgccgat 240  
ggtgccgaac aaaccgcga tcgtcatctg gtatcgcaac cctttgctga aaaatagcgg 300  
cgtctttgcc gctctgaatc tcaacctgac gccttcactc ttttatagtt cacggcagga 360  
agattacgat ggcgtcgccc tcattattgg caatactgcg ctatctacct tttcttcacg 420  
tttgatgaac gttaacgaat taaccgacat gccagtcctg gaaactaaaa ttgcgggcat 480  
tcctctgacc gttcggcctt atgcagatga ctggacatgg aacgatgtgt ggtacgcatt 540  
tttactgggc ggcatgagtg gaactgtcgt tgg 573

<210> 894  
<211> 581  
<212> DNA  
<213> Streptococcus mutans

<400> 894  
gaaatgatat tgacgggact ttcataaaaa ttttcaagga cttgaggtgt aataatatct 60  
tttttaggac cttgagccac tattttacct ctacgaagga ggaggatatg actcatttta 120  
tcagtgatatt cttcagcatg gtgggtaaca taaaggatag ttggagcatg tggtaactca 180  
gtaatctttt caacttgtgt tagcaatttt tcacgggcaa aaagatccag tccgctggtt 240  
gcttcatcca aaataatgat ttcaggatct tccataaggc tgcgcgcaat aaggaggagt 300  
tgtttttcac cttgtgagag gctgctatag atgcgaccaa gcaagtgttt tccgccgatg 360  
acagtaagca tttggcgtgc ttcattaagt tctgtttcgt cgtattcctt gtagagaatg 420  
cttgatttgt atttaccagt tagcacgac ttttcagcca acatatttgc agggagtcgc 480  
tcagcaataa aagagccac gacaccgatt ttagtccgca tattgggaat atcaccctga 540  
ccaaacctag tattgagaat ttcaacctgt ctttgtgttg a 581

<210> 895  
<211> 281  
<212> DNA  
<213> Escherichia coli

<400> 895  
aaggctggct ttttcttggt atcgcaatag ttggcgaagt aatcgcaaca tccgcattaa 60  
aatctagcga gggctttact aagcttgccc cttccgccgt tgtcataatc ggttatggca 120  
tcgcatttta ttttctttct ctggttctga aatccatccc tgtcgggtgt gcttatgcag 180  
tctggtcggg actcggcgct gtcataatta cagccattgc ctggttgctt catgggcaaa 240

agcttgatgc gtggggcctt gtaggtatgg ggctcataat t 281

<210> 896  
<211> 609  
<212> DNA  
<213> Staphylococcus aureus

<400> 896  
attagaaatt gcgactggtg caatcactgc aggtacatta attgcaatga tattttatgt 60  
tattcagtta tctatgcctt taatcaatct ttccacgtta gttacagatt ataaaaaggc 120  
agtcggtgca agtagtagaa tatacgaaat catgcaagaa cctattgaac cgacagaagc 180  
tcttgaagat tctgaaaatg tattaattga tgacggtgta ttgtcatttg aacatgtaga 240  
ctttaaatat gatgtgaaga aaatattaga tgatgtgtcg ttccaaatcc cacaaggcca 300  
agtgagtgc tttgtaggcc cttctgggtc tggtaaaagt acgatattta atctgataga 360  
acgtatgtat gaaattgagt caggtgatat taaatatggc cttgaaagtg tctatgatat 420  
cccgttatct aagtggcgac gcaaaattgg atatgttatg caatcaaatt cgatgatgag 480  
tggtacaatt agagacaata ttttatacgg aattaatcgt catgtttcag atgaagaact 540  
tattaattat gctaaattag cgaactgtca tgattttatc atgcaatttg atgaaggata 600  
tgacacgct 609

<210> 897  
<211> 274  
<212> DNA  
<213> Staphylococcus aureus

<400> 897  
ttggatagtt caacaaaaac attaacagaa gataaacagg tttaccgtgt ggaggggttc 60  
tcgtgtgcga attgtgctgg gaagtttgaa aaaaatgtaa aagaactatc aggggtgcat 120  
gatgctaaag tcaatttcgg agcttccaaa attgatgtct ttggcagtgc aaccgttgaa 180  
gatctggaaa aggctggtgc tttcgagaat cttaaagtgg caccagagaa ggctagaaga 240  
agggtcgaac cagtggtaac agaagataaa aatg 274

<210> 898  
<211> 532  
<212> DNA  
<213> Klebsiella oxytoca

<400> 898  
tgagcagcgt aaccagacat ggctggagtt ggtgggggaa gcgcagcagc tcatgggcga 60



acgctgcccc gcagatgagc cgcgggcatg tgcgctggca acccgctgga tggagcagct 120  
ggagcaggat accgccggca ggccggagtt tctgactcgc ctgaatgaga tgcacgccgc 180  
cgaaccgcag atgcgtgaac aaactggggg gacgccggag atgattgatt tcattaccgc 240  
tgcttttgcc gaaagcaagc tggccatctg ggcgcgctat ctgaacgccg aagagctggc 300  
ctttaccgcg cagcactatt tcgatcgccg gatggagtgg ccggcgctgg tggccgacct 360  
gcatcgggcc tgtcgtgaga agcgagaccc ggcctccccg gaaggtcagc agctggcgca 420  
gcgctggctg gcgctgttcc agtcttacgc gggtaaagat gcgcagacgc agcagaagtt 480  
tcgctatgcc atggagcagg agccgcattt gatgaaagga acgtggatga ct 532

<210> 899  
<211> 500  
<212> DNA  
<213> *Klebsiella pneumoniae*

<400> 899  
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<210> 900  
<211> 370  
<212> DNA  
<213> *Enterococcus faecium*

<400> 900  
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acaaacagag ttttcagaat cgcttgctcg tagtttgctg aatcacttag gggttgctca 180  
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tgctttgctt tttactaagc caagtaatgt gttgctgtta gatgaaccga ctaattttat 300  
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gtttacatca 370

<210> 901  
<211> 400  
<212> DNA  
<213> Escherichia coli

<400> 901  
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taacgacctt aaagcctgta agcatatctt cgccgaagaa aatagcagtg tcgctgcgcc 300  
attattcaag ctttgcgagc gtcgtcaggg gatcgctggg gtcaaaggga atcagctaca 360  
actgatgacc gagtcagatg atgtgatgca ggcgttaatc 400

<210> 902  
<211> 540  
<212> DNA  
<213> Klebsiella pneumoniae

<400> 902  
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gtaatattgg cgcaggttca ccaattacac ttcgctccagg tagtcagcgt atcgtttata 420  
aagcaacgct gcctataaat tcgggcgatt acctaataca ctgcggcctc gctatggttg 480  
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<210> 903  
<211> 770

&lt;212&gt; DNA

<213> *Klebsiella pneumoniae*

&lt;400&gt; 903

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ttgataatgg tggttgtcag tgggcggcat cattgaatga acctaagggtg agctacatca     180
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ttgtccatgc ctttaataaa ggttcgtata aaagcaaatt attactttgg taccatattc     720
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&lt;210&gt; 904

&lt;211&gt; 614

&lt;212&gt; DNA

<213> *Staphylococcus aureus*

&lt;400&gt; 904

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614

&lt;210&gt; 905

&lt;211&gt; 411

&lt;212&gt; DNA

<213> *Pseudomonas aeruginosa*

&lt;400&gt; 905

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gctggccatc caccagcatg cggaggccat catgtcacgc gtgcatgacg agttgtttgc 360  
cccgtcacc ccggtggaac aggccaccct ggtgcatctc ctcgaccagt g 411

&lt;210&gt; 906

&lt;211&gt; 401

&lt;212&gt; DNA

<213> *Escherichia coli*

&lt;400&gt; 906

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agggttcata tctcatttcg aggacggtcg tattcttaag cacatctact tttcagcctt 120  
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cggctacata tacatagttg agccaacagg accgttcgaa gacgatccga atcttacgaa 240  
caaaaaatth cccggtaatc caacacagtc ctatagaacc tgcgaaccct tgagaattgt 300  
tggcgttggt gaagactggg aggggcatcc tgttgaatta ataaggggaa tgttggaattc 360  
gttagaggac ttaaagcgcc gtggtttaca cgtcattgaa g 401

&lt;210&gt; 907

&lt;211&gt; 742

&lt;212&gt; DNA

<213> *Staphylococcus aureus*

&lt;400&gt; 907

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gttagaaaat ataaacatta aaataaataa aggtgaattt ttagcaattg ttggaccaa 120

tgggtgctggt aaatcaacat tattgaagtt gattctaggg ttattacctt tacaaagtgg 180  
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 tgtatcacaa aaagcaaagt cctttaattc aggtttccca gcaagtgtta aagaagttgt 300  
 ttttaagcga ttaacaaaga caaacgtct tttccaaaca tttaatagca aagataatga 360  
 aaaagtgatt aaagtactag aaagactgaa tataagtgat ttaattcata aaaatatagc 420  
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 ttataatact ttagatcaat taaaacaaga aggtatcacc attatcttag ttactcatga 600  
 tatcggtggt gtagcagata ctgctactga agtagcatgt ttaaataagc atttgcattt 660  
 ccatggtaca actgatgagt ttaaatacact tgatgaagtt gaaatttcaa aaatttatgg 720  
 acatcctgta cgttttgtcg at 742

<210> 908  
 <211> 352  
 <212> DNA  
 <213> Staphylococcus aureus

<400> 908  
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 ataatcttaa atgatgggat gccgtagccg ttgaagattc aatgatatta gctacatcac 180  
 aaacacataa ctctccctct aaagacaaaa cataagcaat ttttaactctt gtatcatctg 240  
 atagagcctt aaaaactttc gctacatcca taggattctg ttttagcaagg tcttttttag 300  
 ccctgtttac cttatcttca tgaatatagg taacttcaca catatctttt gt 352

<210> 909  
 <211> 583  
 <212> DNA  
 <213> Enterococcus faecalis

<400> 909  
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cattggataa tgaagcaaag aatgcaccag gctttgtggc tgaatggcgc tatgaagatg 480  
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<210> 910  
<211> 231  
<212> DNA  
<213> Candida albicans

<400> 910  
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aatgatgctt gtgcttgtgg aaaaagaaat aaatcaagtt gtacttgtgg tgctaattgt 180  
atttgtgatg gtactagaga tggtgaaact gatttcacta acttgaaata a 231

<210> 911  
<211> 240  
<212> DNA  
<213> Candida albicans

<400> 911  
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agaatttagc cagaactttc actcatgatt ctttcaaaga tgactcgtca gcaggtttat 180  
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<210> 912  
<211> 513  
<212> DNA  
<213> Candida albicans

<400> 912  
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gccggtcaaa ttacatcaga aattccttat caagttgccg ttggtaccat agcatttttc 420  
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<210> 913  
<211> 609  
<212> DNA  
<213> Candida albicans

<400> 913  
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caagggatca attatcctaa acattatgat tatgttgatg ctagaaaaac accaactgaa 540  
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<210> 914  
<211> 528  
<212> DNA  
<213> Candida albicans

<400> 914  
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ttattggtat catagccata caggggggtca gtatggagac ggtatgagag gtgtctttat 180  
tattgaagat gatgatttcc cgtatcacta cgatgaagaa gttgttttaa ctttaagtga 240  
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aggagcagaa ccgatccctc agaacttttt gttcaatgaa acaagaaatg ccacttgga 360  
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aaaaaacacc actgatttga ttatatcac agttgctcaa agatatgg 528

<210> 915  
<211> 585  
<212> DNA  
<213> Candida albicans

<400> 915  
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<210> 916  
<211> 560  
<212> DNA  
<213> Candida albicans

<400> 916  
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<210> 917  
<211> 574  
<212> DNA  
<213> Candida albicans

<400> 917  
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tatttaggtc caaaagggtca tgaatttggt ttcaatgcta aattatctga tgtttctgct 180  
gaagatgctt ataaacattt aactactcca gttttcggta aaggggttat ttatgattgt 240  
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<210> 918  
<211> 647  
<212> DNA  
<213> Candida albicans

<400> 918  
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<210> 919  
<211> 552  
<212> DNA  
<213> Glycine max

<400> 919  
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<210> 920  
<211> 358  
<212> DNA  
<213> Homo sapiens

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caactaaagt cctgtttag catagacagt gaaatgctat gacatcagaa gactttaaaa 300  
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<210> 921  
<211> 271

<212> DNA  
<213> Homo sapiens

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tggggcaatg ctgacgctga gtacgttggtg g 271

<210> 922  
<211> 239  
<212> DNA  
<213> Homo sapiens

<400> 922  
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gcatgggtca gaagaagtcc tacgtggaca atgaggccca gggcaagaga agcatcctga 180  
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<210> 923  
<211> 365  
<212> DNA  
<213> Homo sapiens

<400> 923  
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ttgtg 365

<210> 924  
<211> 342  
<212> DNA  
<213> Homo sapiens

<400> 924  
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tgtgcattct agagtgcata tatttatatt ttgcctgtta aaaagaaagt gagcagtgtt 120  
agcttagttc tcttttgatg taggttatta tgattagctt tgtcactgtt tcactactca 180  
gcatggaaac aagatgaaat tccatttgta ggtagtgaga caaaattgat gatccattaa 240  
gtaaacaata aaagtgtcca ttgaaaccgt gatttttttt tttttcctgt catactttgt 300  
taggaagggt gagaatagaa tcttgaggaa cggatcagat gt 342

<210> 925  
<211> 552  
<212> DNA  
<213> Glycine max

<400> 925  
atccaagttg aaagagataa attgaacaag tatggtcgtc ccctattagg atgtactatt 60  
aaacctaaat tggggttatc cgctaagaat tatggtagag ctgtttatga atgtcttcgt 120  
gggtggacttg attttaccaa agatgatgaa aatgtgaatt cccaaccatt tatgcgttgg 180  
agagaccgtt tcttattttg tgccgaagcc atttttaaat cacaggctga aacaggtgaa 240  
atcaaagggc attacttgaa tgcaactgcg ggtacatgcg aagaaatgat gaaaagagct 300  
gtatttgcca gagaattagg cgttcctatc gtaatgcatg attatttaac agggggattc 360  
actgcaaata ctagcttagc tcattattgc cgagataatg gtctacttct tcatatacac 420  
cgtgcaatgc atgcagttat cgacagacaa aagaatcatg gtatgcactt tcgtgtacta 480  
gctaaagcat tacgtttgtc tgggtggagat catgttcacg ccggtaccgt agtaggtaaa 540  
cttgaagggg aa 552

<210> 926  
<211> 286  
<212> DNA  
<213> Pseudomonas aeruginosa

<400> 926  
caggcctaac acatgcaagt cgagcggatg aaggagctt gctcctggat tcagcggcgg 60  
acgggtgagt aatgcctagg aatctgcctg gtagtggggg ataacgtccg gaaacggggc 120  
ctaataccgc atacgtcctg agggagaaag tgggggatct tcggacctca cgctatcaga 180  
tgagcctagg tcggattagc tagttggtgg ggtaaaggcc taccaaggcg acgatccgta 240  
actggtctga gaggatgac agtcacactg gaactgagac acggtc 286



<210> 927  
<211> 643  
<212> DNA  
<213> *Enterococcus faecium*

<400> 927  
aggataggta ggagccgtag aaatcggaac gctagtttcg atggaggcgc tgggtgggata 60  
ctaccctgc gttatggcca ctctaaccgc caccactaat cgtggtggga gacagtgtca 120  
gatgggcagt ttgactgggg cggtcgcctc ctaaaaggta acggaggcgc ccaaagggttc 180  
cctcagaatg gttggaaatc attcgaagag tgtaaaggca gaaggagct tgactgcgag 240  
accaacaagt cgagcaggga cgaaagtcgg gcttagtgat ccggtgggtc cgcattggaag 300  
ggccatcgct caacggataa aagctaccct ggggataaca ggcttatctc cccaagagt 360  
ccacatcgac ggggagggtt ggacacctga tgcggctcg tcgcatcctg gggctgtagt 420  
cggtcccaag ggttgggctg ttcgccatt aaagcggcac gcgagctggg ttcagaacgt 480  
cgtgagacag ttcggtcctt atccgtcgcg ggcgttgga atttgagagg agctgtcctt 540  
agtacgagag gaccgggatg gacttacgc tggtgtacca gttgttctgc caagggtttt 600  
gctgggtagc tatgtaggga agggataaac gctgaaagca tct 643

<210> 928  
<211> 245  
<212> DNA  
<213> *Streptococcus pyogenes*

<400> 928  
gcgtgagtga aagaagggtt tcggatcgta aagctctggt gttagagaag aatgatggtg 60  
ggagtggaaa atccaccaag tgacggtaac taaccagaaa gggacggcta actacgtgcc 120  
agcagccgcg gtaatacgta ggtcccgagc gttgtccgga tttattgggc gtaaagcgag 180  
cgcaggcggg tttttaagtc tgaagttaa ggcattggct caaccaatgt acgctttgga 240  
aactg 245

<210> 929  
<211> 240  
<212> DNA  
<213> *Streptococcus pneumoniae*

<400> 929  
ccacactggg actgagacac ggcccagact cctacgggag gcagcagtag ggaatcttcg 60

gcaatggacg gaagtctgac cgagcaacgc cgcgtgagtg aagaaggttt tcggatcgta 120  
aagctctgtt gtaagagaag aacgagtgtg agagtggaaa gttcacactg tgacggatatc 180  
ttaccagaaa gggacggcta actacgtgcc agcagccgcg gtaatacgta ggtcccagac 240

<210> 930  
<211> 242  
<212> DNA  
<213> Streptococcus agalactiae

<400> 930  
cacggcccag actcctacgg gaggcagcag tagggaatct tcggcaatgg acggaagtct 60  
gaccgagcaa cgccgcgtga gtgaagaagg ttttcggatc gtaaagctct gttgttagag 120  
aagaacgttg gtaggagtgg aaaatctacc aagtgacggt aactaaccag aaagggacgg 180  
ctaactacgt gccagcagcc gcggtaatat gtaggtcccg agcgttgtcc ggatttattg 240  
gg 242

<210> 931  
<211> 250  
<212> DNA  
<213> Enterococcus faecium

<400> 931  
gtgcattagc tagttggtga ggtaacggct caccaaggcc acgatgcata gccgcacctg 60  
agagggtgat cggccacatt gggactgaga cacggcccaa actctacggg aggcagcagt 120  
agggaatctt cggcaatgga cgaaagtctg accgagcaac gccgcgtgag tgaagaaggt 180  
tttcggatcg taaaactctg ttgttagaga agaacaagga tgagagtaac tgttcatccc 240  
ttgacggtat 250

<210> 932  
<211> 263  
<212> DNA  
<213> Enterococcus faecium

<400> 932  
tgcctataca tgcaagtcga acgcttcttt ttccaccgga gcttgctcca ccggaaaaag 60  
aggagtggcg aacgggtgag taacacgtgg gtaacctgcc catcagaaag ggataaact 120  
tggaacacag tgctaatacc gtataacaaa tcaaaaccgc atggttttga tttgaaaggc 180  
gcttttcgggt gtcgctgatg gatggaccgc cggtgcatta gctagttagt gaggtaacgg 240  
ctcaccaagg ccacgatgca tag 263

<210> 933  
<211> 267  
<212> DNA  
<213> *Enterococcus faecalis*

<400> 933  
ggcgtgccta atacatgcaa gtcgaacgct tctttcctcc cgagtgccttg cactcaattg 60  
gaaagaggag tggcggacgg gtgagtaaca cgtgggtaac ctacccatca gagggggata 120  
acacttgga acaggtgcta ataccgcata acagtttatg ccgcatggca taagagtga 180  
aggcgctttc ggggtgctgct gatggatgga cccgcgggtgc attagctagt tggtgaggta 240  
acggctcacc aaggcgacga tgcatag 267

<210> 934  
<211> 200  
<212> DNA  
<213> *Klebsiella pneumoniae*

<400> 934  
caggcctaac acatgcaagt cgagcggtag cacagagagc ttgctctcgg gtgacgagcg 60  
gcggacgggt gagtaatgtc tgggaaactg cctgatggag ggggataact actggaaacg 120  
gtagctaata ccgcataatg tcgcaagacc aaagtggggg accttcgggc ctcatgccat 180  
cagatgtgcc cagatgggat 200

<210> 935  
<211> 635  
<212> DNA  
<213> *Staphylococcus aureus*

<400> 935  
acacgggtcca gactcctacg ggaggcagca gtagggaatc ttccgcaatg ggcgaaagcc 60  
tgacggagca acgccgcgtg agtgatgaag gtcttcggat cgtaaaactc tgttattagg 120  
gaagaacata tgtgtaagta actgtgcaca tcttgacggg acctaatacag aaagccacgg 180  
ctaactacgt gccagcagcc gcggtaatac gtaggtggca agcgttatcc ggaattattg 240  
ggcgtaaagc gcgcgtaggc ggttttttaa gtctgatgtg aaagcccacg gctcaaccgt 300  
ggaggggtcat tggaaactgg aaaacttgag tgcagaagag gaaagtggaa ttccatgtgt 360  
agcggtgaaa tgcgcagaga tatggaggaa caccagtggc gaaggcgact ttctgggtctg 420  
taactgacgc tgatgtgcga aagcgtgggg atcaaacagg attagatacc ctggtagtcc 480

acgccgtaaa cgatgagtgc taagtgttag ggggtttccg ccccttagtg ctgcagctaa 540  
cgcatthaagc actccgcctg gggagtacga ccgcaagggt gaaactcaaa ggaattgacg 600  
gggacccgca caagcgtgga gcatgtgggt taatt 635

<210> 936  
<211> 243  
<212> DNA  
<213> *Enterococcus faecalis*

<400> 936  
gcattagcta gttggtgagg taacggctca ccaaggcgac gatgcatagc cgacctgaga 60  
gggtgatcgg ccacactggg actgagacac ggcccagact cctacgggag gcagcagtag 120  
ggaatcttcg gcaatggacg aaagtctgac cgagcaacgc cgcgtgagtg aagaaggttt 180  
tcggatcgta aaactctgtt gttagagaag aacaaggacg ttagtaactg aacgtcccct 240  
gac 243

<210> 937  
<211> 274  
<212> DNA  
<213> *Staphylococcus hominis*

<400> 937  
cgtgcctaata acatgcaagt cgagcgaaca gacgaggagc ttgctccttt gacgttagcg 60  
gcggacgggt gagtaacacg taggtaacct acctataaga ctgggataac ttcgggaaac 120  
cggagctaata accggataata atttcgaacc gcatggttcg atagtgaag atggctttgc 180  
tatcacttat agatggacct gcgccgtatt agctagttgg taaggtaacg gcttaccaag 240  
gcaacgatac gtagccgacc tgagaggggtg atcg 274

<210> 938  
<211> 200  
<212> DNA  
<213> *Staphylococcus haemolyticus*

<400> 938  
acacgtgggt aacctaccta taagactggg ataacttcgg gaaaccggag ctaataccgg 60  
ataatatattc gaaccgcatg gttcgatagt gaaagatggt tttgctatca cttatagatg 120  
gacccgcgcc gtattagcta gttggtaagg taacggctta ccaaggcgac gatacgtagc 180  
cgacctgaga ggggtgatcgg 200

<210> 939  
<211> 287  
<212> DNA  
<213> *Enterococcus faecium*

<400> 939  
ccttttaggtg tattggtagg agagcgttct aagggcgtcg aaggcagatc gtgaggactg 60  
ctggagcgcct tagaagtgag aatgccggta tgagtagcga aagacagggtg agaatcctgt 120  
ccaccgaatg actaaggttt cctgggggaag gctcgtccgc ccagggttag tcgggaccta 180  
agccgaggcc gacaggcgta ggcgatggat aacagggtga tattcctgta cccgttgttt 240  
ttgtttgagc aatggaggga cgcaggaggc taaggaaatgc agacgat 287

<210> 940  
<211> 281  
<212> DNA  
<213> *Proteus mirabilis*

<400> 940  
caggcctaac acatgcaagt cgagcggtaa caggagaaag cttgctttct tgctgacgag 60  
cggcggacgg gtgagtaatg tatggggatc tgcccgatag agggggataa ctactggaaa 120  
cggtggctaa taccgcataa tgtctacgga ccaaagcagg ggctcttcgg accttgcaact 180  
atcggatgaa cccatatggg attagctagt aggtggggta aaggctcacc taggcgacga 240  
tctctagctg gtctgagagg atgatcagcc aactgggac t 281

<210> 941  
<211> 200  
<212> DNA  
<213> *Proteus vulgaris*

<400> 941  
tggttgatca tggctcagat tgaacgctgg cggcaggcct aacacatgca agtcgagcgg 60  
taacaggaga aagcttgctt tcttgctgac gagcggcgga cgggtgagta atgtatgggg 120  
atctgcccga tagaggggga taactactgg aaacggtggc taataccgca tgacgtctac 180  
ggaccaaagc aggggctctt 200

<210> 942  
<211> 309  
<212> DNA  
<213> *Staphylococcus aureus*

<400> 942  
tctctgatgt tagcggcgga cgggtgagta acacgtggat aacctaccta taagactggg 60

ataacttcgg gaaaccggag ctaataccgg ataatatattt gaaccgcatg gttcaaaagt 120  
gaaagacggt cttgctgtca cttatagatg gatccgcgct gcattagcta gttggtaagg 180  
taacggctta ccaaggcaac gatgcatagc cgacctgaga gggatgatcg ccacactgga 240  
actgagacac ggtccagact cctacgggag gcagcagtag ggaatcttcc gcaatgggcg 300  
aaagcctga 309

<210> 943  
<211> 183  
<212> DNA  
<213> *Klebsiella oxytoca*

<400> 943  
ctaacacatg caagtcgaac ggtagcacag agagcttgct ctcggtgac gagtggcga 60  
cggtgagta atgtctggga aactgcccga tggaggggga taactactgg aaacggtagc 120  
taataccgca taacgtcgca agaccaaaga gggggacctt cgggcctctt gccatcgat 180  
gtg 183

<210> 944  
<211> 548  
<212> DNA  
<213> *Mus musculus*

<400> 944  
ataggtcggc ggttcatgcc ccccatgcag gagctattac acatgtactt gtagtggatg 60  
gtggtatact cagagccggc ctgggggaag acacaggatc caggtgaagt cgctccctac 120  
ctcactacag gtgacctgca gcagccggga atggctggct atagcctcta ataagtttca 180  
gttttagttg tagagtaggg atattccacc tgttcggcac acctgctgga gctgtggggc 240  
ccaacacttg cttagcatgg gagggaaacc gactcagcgt ctctatttcc cgcctggatg 300  
gggaagcccc ttctcccaga gactgctgtt aaagtagacc ctgggctggg cacggcagct 360  
tgcacctcta agcctagcta gcactcagga gggtaggca aacgggttgc tagaaagtca 420  
acatcagtct aggctggagt caactgtctc taagacgcac aaaccaaacc aaaattacag 480  
acctcgggtg gtcataagg taccaccacg ctgtggcgaa aagtctgcct gtcttccaga 540  
tactcggg 548

<210> 945  
<211> 577



<212> DNA  
<213> Dictyostelium discoideum

<400> 945  
attggagaag gtgcagcagg agaagtatth gttagcaacat catcaaagaa caataagaga 60  
gttgcaatta aaaagattga aattaacaat gataatgcc aactcttggt aacagagatt 120  
gcaattatga agacatcaca tcatgataac attgtaaatt acattgatag ttatatagt 180  
aacgatagag aactttgggt tgcaatggag tttatgggtg gtggttgttt aacagacatt 240  
ttagaggcat ttgataatat caaaatgagt gagattcaaa ttgcttatgt ggttaaagag 300  
acctgaagg cattgcaata cattcatagt cttcatcgta ttcatagaga tataaagagt 360  
gataatattt tattgggctc agagggtagt gtaaagattg ctgattttgg ttatgccgct 420  
caattaactc aaaaacaaca aaaacgtaat accgtcgttg gtacccctta ttggatggcc 480  
ccagaactca ttagagggtca cgattatgggt gtcaagggtg atatttggtc tttgggtatc 540  
atgatgatgg aaatggctga aggtgaacca ccttata 577

<210> 946  
<211> 963  
<212> DNA  
<213> Mus musculus

<400> 946  
ggaagccaca ctgctacaca gggttgtcaa acgactttga ccttcccca gatgtgaggg 60  
catagtaact ataacatcag gttcctggaa aatttagctg aaagacagaa gcaagcactg 120  
aacatggccc cgagatctac gtaccgggta ccattgaga ggctggaaat acaggctgggt 180  
gtctgtaatg cacacatgcc cagggttcgt cactagaggt gttaccatct ctgctttgca 240  
ctccatgtgc agcttttcag aaacactttg gaacctgcaa agatgtttcc agcaaaagta 300  
agaaaagtta ggaaccaatc cactgcctcg gcttaacctc agtgtgagtg agcttgctta 360  
cctgccgaaa cactacagtc atcaagtggc tgcttaaata aggttgacat gctttcaaat 420  
ggcacaatgg aggctggct tgtttattaa ttgaagagct tacatatcac agaaacaaat 480  
gtctcctaac tgatcagtc tgaagctctt tctccatcat gtgacttcct acttttatat 540  
tgttaagacc gactttttaga gcctacataa agagcagcgg tgctacgttt tatgccagca 600  
ctaggaggaa gctgagacag gagcttgggc cacagagaaa gaccctacce ttagcacact 660  
tcctttatca gggttagaac acataattac aattgctttt aggtcagttt catttctcca 720  
tataaaacca ctcaaagatg ccttttctac tcctaaaatg cttaactaaa aaataactcc 780

atttctgatt tgtgaattta aaaagtagtg tggaacaac taaattatca atattcttgg 840  
atgattactt tgttaaataa ctggattaac agtaaattctc agggctctaga agtgcagctc 900  
ggtagctagag cagcgtgat catgctggag cctggctcag tcctggcacc gagataacta 960  
agg 963

<210> 947  
<211> 538  
<212> DNA  
<213> Dictyostelium discoideum

<400> 947  
ccaccggttt aacttggaat ccaaaagggtg gagatgctaa atctgctaca ccagcaccag 60  
cttcatcagc accagccgcc ccagttgcac cagctgtttc atccactcca gttgaatcaa 120  
agaaagggtcc aggttttaggt gcagttttcg gtgaacttag caaagggtgat ggtggtacca 180  
gtggttttaa aaaagttacc aacgatatga aatccaaaaa tttcaccgac aaatcatcag 240  
ttgttaaagc tgctgatact aaagtcgcca aagttgatgc tccatctaga ccagccgttt 300  
ttgctctcca aggtaacaaa tgggtccattg aatatcaagt taacaacaaa gaaattgtca 360  
ttgccgagcc agatagtcgt caaactgttt acattttcca atgtgtaaac tctttagtcc 420  
aaatcaaagg taaagttaat gcaattactc ttgatgggtg taaaagact tcaatcggtt 480  
tcgaaaatgc catttcctct tgtgaagttg tcaattgtaa tgggtgttgaa atccaagt 538

<210> 948  
<211> 26  
<212> DNA  
<213> synthetic construct

<400> 948  
taaattgttt agattacaat cagagg 26

<210> 949  
<211> 22  
<212> DNA  
<213> synthetic construct

<400> 949  
ttcaaagttt tcgtatgttt ca 22

<210> 950  
<211> 19  
<212> DNA

<213> synthetic construct

<400> 950  
cgtgtttggg ttaaattcc

19

<210> 951  
<211> 20  
<212> DNA  
<213> synthetic construct

<400> 951  
ataatggtgt gttcctccac

20

<210> 952  
<211> 20  
<212> DNA  
<213> synthetic construct

<400> 952  
aaaagaaaaa cacgcaattc

20

<210> 953  
<211> 20  
<212> DNA  
<213> synthetic construct

<400> 953  
cattcgtcaa ctgattcgta

20

<210> 954  
<211> 21  
<212> DNA  
<213> synthetic construct

<400> 954  
tagcatagca acaaacagtg a

21

<210> 955  
<211> 21  
<212> DNA  
<213> synthetic construct

<400> 955  
gttttgacct gaagctgtat c

21

<210> 956  
<211> 20  
<212> DNA  
<213> synthetic construct

<400> 956  
aacaaagcag atgcgatagt 20

<210> 957  
<211> 20  
<212> DNA  
<213> synthetic construct

<400> 957  
gaaatacgat gcggtttatc 20

<210> 958  
<211> 18  
<212> DNA  
<213> synthetic construct

<400> 958  
ctaggcgcat tagcagtt 18

<210> 959  
<211> 20  
<212> DNA  
<213> synthetic construct

<400> 959  
tagccttctc ttccatttca 20

<210> 960  
<211> 21  
<212> DNA  
<213> synthetic construct

<400> 960  
aatgctgcta acctgcgtga t 21

<210> 961  
<211> 24  
<212> DNA  
<213> synthetic construct

<400> 961  
cacgtctaac cgctttactg attg 24

<210> 962  
<211> 30  
<212> DNA  
<213> synthetic construct

<400> 962  
aaagtaaaga gtagactaag ctgtctgctc 30

<210> 963  
<211> 25  
<212> DNA  
<213> synthetic construct

<400> 963  
acctaataaa attcaagcat tggga

25

<210> 964  
<211> 27  
<212> DNA  
<213> synthetic construct

<400> 964  
aagaatttaa aatggtagg tgcgta

27

<210> 965  
<211> 24  
<212> DNA  
<213> synthetic construct

<400> 965  
acgtaatcgt tttgttgcca aata

24

<210> 966  
<211> 22  
<212> DNA  
<213> synthetic construct

<400> 966  
aacgtcccat gccattaatt tt

22

<210> 967  
<211> 24  
<212> DNA  
<213> synthetic construct

<400> 967  
ttgcgtttct atttagctca gaca

24

<210> 968  
<211> 23  
<212> DNA  
<213> synthetic construct

<400> 968  
acagagcagc aaaagcgta gtg

23

<210> 969  
<211> 24  
<212> DNA  
<213> synthetic construct

<400> 969  
gaccttgaat gaaccattga ccat

24

<210> 970  
<211> 30  
<212> DNA  
<213> synthetic construct

<400> 970  
catatggtga ttttacattc ttcttaattg

30

<210> 971  
<211> 28  
<212> DNA  
<213> synthetic construct

<400> 971  
cctaaccatg tactttgtaa cactttca

28

<210> 972  
<211> 29  
<212> DNA  
<213> synthetic construct

<400> 972  
aaatttatta gcagaagtag cagaaaatg

29

<210> 973  
<211> 27  
<212> DNA  
<213> synthetic construct

<400> 973  
ctgaactctt ctaatgcttc aacgatt

27

<210> 974  
<211> 24  
<212> DNA  
<213> synthetic construct

<400> 974  
tttaggcgaa aatattggtg aaga

24

<210> 975  
<211> 24



<212> DNA  
<213> synthetic construct

<400> 975  
tttgtcgtcg tcttttactt cggt 24

<210> 976  
<211> 26  
<212> DNA  
<213> synthetic construct

<400> 976  
ggtcttatcg ttgcagctat cactat 26

<210> 977  
<211> 26  
<212> DNA  
<213> synthetic construct

<400> 977  
gagcgtatcg cataaataat cttttc 26

<210> 978  
<211> 24  
<212> DNA  
<213> synthetic construct

<400> 978  
tcaggtgaaa tgtagaatc agca 24

<210> 979  
<211> 23  
<212> DNA  
<213> synthetic construct

<400> 979  
taagtcacca aataagaatg gcg 23

<210> 980  
<211> 21  
<212> DNA  
<213> synthetic construct

<400> 980  
tagtcaccat gaagttgccc c 21

<210> 981  
<211> 23  
<212> DNA  
<213> synthetic construct

<400> 981  
cctcttgaag atggtacacg gat 23

<210> 982  
<211> 22  
<212> DNA  
<213> synthetic construct

<400> 982  
cgaatgatgc aatcagacga aa 22

<210> 983  
<211> 23  
<212> DNA  
<213> synthetic construct

<400> 983  
caccacgatt tattggcaaa gtt 23

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<210> 2823  
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<400> 2823  
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<210> 2824  
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<210> 2828  
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<210> 2829  
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<210> 2834  
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<400> 2835

cccgagtatc tggaagacag

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<210> 2836  
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22

<210> 2837  
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<400> 2837  
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<210> 2838  
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<400> 2838  
ccttagttat ctcggtgccca g

21

<210> 2839  
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<400> 2839  
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<210> 2840  
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<400> 2840  
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<210> 2841  
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<400> 2841  
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<210> 2842  
<211> 240  
<212> DNA  
<213> *Streptococcus dysgalactiae*

<400> 2842  
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gcaatggacg gaagtctgac cgagcaacgc cgcgtgagtg aagaaggttt tcggatcgta 120  
aagctctggt gttagagaag aatgatgggt ggagtggaaa atccaccatg tgacggtaac 180  
taaccagaaa gggacggcta actacgtgcc agcagccgcg gtaatacgta ggtcccagac 240

<210> 2843  
<211> 290  
<212> DNA  
<213> *Acinetobacter baumannii*

<400> 2843  
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ccttgggggtg ctagcacgaa tccatgggct caaggtttat atgtagctgc aggtgcagct 120  
tatgttgata accaatatga tttaacaaaa aatgtaggta caaacgcttc cgttgaaatt 180  
gatggaaacc gttttaatgg tgggtgctaac ggagtgaagca ttgccggtaa tttaaaatat 240  
gataatgata ttgctccata tattggtttt ggttttgctc caaaattcag 290

<210> 2844  
<211> 536  
<212> DNA  
<213> *Acinetobacter baumannii*

<400> 2844  
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gccattatg attttaacgt gtgttggggc ttttctggtt ttaactgaaa catcacgttc 120  
tgcaaagcaa caacaattgc atcatgcctc agcgattttg gcacgctaca atcaaattgc 180  
taaagatctc tacacattag tagaactaca accagatgaa tatgatcatg ctcaacatat 240  
tatgcaaagt atgttttagcg agaaaaatct aaagcgtgct gctttaattg atagtaatgg 300  
tcagacttat ttaagtatcg gttatcgaga taatcgttac tggcctaact tcacacaaaa 360  
caataacttt tttggtccga tctcttataa ccataataat atttatggag tccgtatcat 420  
tgataccgca gggaagcccc ctgtctgggt cttgattgaa atggataatc aaccacttga 480  
attagcgcgt tatcgcatte tgattgcttt ggtcattacc ggcctaata ctttat 536

<210> 2845  
<211> 529  
<212> DNA  
<213> *Acinetobacter baumannii*

<400> 2845  
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gattagtaaa tgcagcgggc gtattaatta tgcgttctat gcttgaagca aaaccggaag 120  
attggcaaac actttttgcg gtgaatgtca tggcaccat cgcaattagt caacaacttg 180  
ccaagcactt ttgtgaaaaa aaacagggaa gtattgtcac tattagctca aatagtgcac 240  
gtatgccacg tatgcagctc ggcatgtatg caacgagtaa agcggcactg agtcattact 300  
gccgtaatct tgcacttgaa atcgcacctc atcaagtcag actcaatata gtttcgccag 360  
gttctacttt aacgcaaattg caacaacagc tttggacaga caattcgctt ccacctgctg 420  
ttattgatgg cgacttaaac cagtaccgca ctggcattcc acttagaaaa cttgcccagc 480  
ctgaagatat cgctaatacc gttagctttt tactttcaga ccaagcagc 529

<210> 2846  
<211> 414  
<212> DNA  
<213> *Acinetobacter baumannii*

<400> 2846  
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aaaccatttg gcagttacat accaatcgcg ccgtgttact ggtccatgac atgcagcagt 120  
atTTTTtaga tttttatgac caaactcaag cacctattcc agagctcatt agaaatacca 180  
aagaactgat taaaaccgca cgtaaattta atattccagt ggtttatact gcacagcccg 240  
gtaatcagac gcctgaacac cgtcaactat tgaccgattt ttggggaacc gggttaaaag 300  
atgatccgta tattactcag attttgccgg aaatctcgcc tcagaaaaat gatactgttt 360  
taacaaaatg gcgttatagc gcatttaagt tttccccact tgaacaactc atgc 414

<210> 2847  
<211> 500  
<212> DNA  
<213> *Acinetobacter baumannii*

<400> 2847  
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caatggaatg ctaaactgac ttacaactat cttgatacga agcataatag ccgtcttctc 120  
tattactatg gttatccaaa atctgatggg tccggtgttt ctctaacgcc ttgggggtgga 180  
caagaacatc aagaaaaaca tgctgtagat tttaatctcg aaggggaccta taagctattt 240  
aaccgagaac atgaagcaac tctaggctac agctatgtac gtaatcatca acaagataaa 300  
caatctacag gaacgattaa cgatagtaac gttataaagt caactactac cgattgggca 360  
agttggacac cgcaatctat aacttggtca gatttcacag aagcggccaa ctataaacia 420  
aatattaact caatttatgc cgcgacacgt ttacatctta atgaagattt aaaactttta 480  
cttggtgcaa actatgttca 500

<210> 2848  
<211> 561  
<212> DNA  
<213> Acinetobacter baumannii

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aaaatgatga gtacttcata caaaaaaaga agctgattga tgaattagaa attaacatcc 120  
ctcaagagtt attaacaaac actgacacat ctttatcgaa tcaagatgtt ttgaccttgg 180  
ggtttagtgg tgatgcgagt gattggatat ctttagataa attaaaagat gtaagctatg 240  
aatatcaatc ttcgaaccaa tactttaagc tcaattttcc gcccgcttgg atgcccactc 300  
aagttttggg taaagactca tgggtataagc cggaagtcgc tcagtctggt atagggctgc 360  
tcaataacta tgatttttat acatatagac cctatcaagg cggttcaacc agtagtttat 420  
ttactgagca gcgttttttc tctccgtag gggtcattaa aaactctggt gtctatgtca 480  
aaaaccaata caaaaatgaa ggtaacgccg agtctgtaga taatgacggc tatcgtcggt 540  
atgacacatc ttggcagttt g 561

<210> 2849  
<211> 501  
<212> DNA  
<213> Acinetobacter baumannii

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attgaagcca atgaaaaggc aactgcggtt tggcttcaaa atacgggtaa gaccgatgcg 120  
atggtgcaaa ttcgggtatt taaatggaat caagatggct taaaagataa ctatagttag 180

caatcagaaa ttataccaag cccgcctgta gctaaaatta aagcaggcga gaagcatatg 240  
cttcgcttaa ccaaaagcgt caatttgccg gatggcaaag agcagtcata tcgtctgatt 300  
gtagatgagt tgccgatccg actttctgat ggcaacgagc aagatgcttc taaagtaagt 360  
ttccaaatgc gttactcaat tccattgttt gcttatggga aaggaattgg cagtggatta 420  
accgaagaaa gtcaaaaact taatgcaaaa aatgcttttag caaaaccggt tttacagtgg 480  
tcagttcgca ataatcaaca a 501

<210> 2850  
<211> 501  
<212> DNA  
<213> *Acinetobacter baumannii*

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aaaagtatgt tgctgatttt attgtcgggt ggatgtttta atattccaaa tactgtgttt 120  
gcaggcgatt tgctccacc accaagagac attaatgaaa ttaatcaact ttttaaactg 180  
tatctcgatt tggttgtgaa ccaatattcg gtccagcaag ttgtgccagt gattgtgaaa 240  
aatgatgagt acttcataca aaaaaagaag ctgattgatg aattagaaat taacatccct 300  
caagagttat taacaaacac tgacacatct ttatcgaatc aagatgtttt gaccttgggg 360  
tttagtggtg atgcgagtga ttggatatct ttagataaat taaaagatgt aagctatgaa 420  
tatcaatctt cgaaccaata ctttaagctc aattttccgc ccgcttggat gcccaactcaa 480  
gttttgggta aagactcatg g 501

<210> 2851  
<211> 515  
<212> DNA  
<213> *Acinetobacter baumannii*

<400> 2851  
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ccttgtttgc tgcttaatgc tcggttgtca gaaaaatctg caaaaggata tggcaaagtc 120  
tcgggtttta ccgcaggat gttaaaacag ctggactggg tgtagctca agatagtgca 180  
actcgtcagc gttatgttga gcttggttta gacgaacaca aaagtcaggt cgttggtaat 240  
attaagtttg atattcatgc gccagaggct tttattaaac aagctgccca attgcatcag 300  
caatgggtatc tggaaaatcg gcagggtgtg acgattgccg gtacacatgc acccgaagaa 360

caacaaattt tggaagcact cgcaccttat ttaaattcag atcgtgagtt ggtgtgtatt 420  
gtggtgcctc gtcacctga gcgtttcgat gaagtatttg aaatttgcca aaatttaaatt 480  
ttaattacgc atcgtagaag tatgggcca agtat 515

<210> 2852  
<211> 454  
<212> DNA  
<213> *Acinetobacter baumannii*

<400> 2852  
gctatctgtt agtcaattta tatatgcagc agatcctcag ctcaattcaa gttttaaaagt 60  
acaagctaaa attgaaaatg gctgttcaat agataatatt gagcaaaaca tggatttttg 120  
taaataactct gctttatcaa aaaataaagt agtgactaat attattaata gcaaagggtc 180  
ttggaatatc cgttgtacgg aaagtttacc tgtaagtgtt tctatagatg gtggtgaaaa 240  
ccttcaaaat aatacaagac gtatgaagaa tggttcgtcc actaattatt tatcttacia 300  
gctatataac tctagtagtt tatccaatga atatattgta ggtaataaat atttattgcc 360  
tgctacaaca cctacaaacc gtctggcaaa ttttgaaata tatggtgtcg ttgatttaga 420  
aaataataat gaaccccata cgcccggaat ttat 454

<210> 2853  
<211> 517  
<212> DNA  
<213> *Acinetobacter baumannii*

<400> 2853  
atatgaaaaa cattcagaaa tcacttcttg cagcattaat agttgctggt tatgcggtaa 60  
atactcaagc agctgttact ggtcagggttg acgttaaatt aaatatctca acaggctgta 120  
ctgtaggttg tagtcaaact gaaggaaata tgaacaagtt tggacttta aatttttgta 180  
aaacttcggg tacttggaac aacgtattaa cagctgaagt tgcttcagca gcaacagggtg 240  
gcaatatttc tgtgacttgt gacggaacag atcctgttga ttttacagtc gcaattgacg 300  
gtggtgaacg tacagaccgc actttaaaaa atactgcttc tgctgatgta gttgcatata 360  
acgtttatcg tgatgctgca cgtacaaacc tttatgttgt aaaccaacca caacagttca 420  
ctacagtaag tggccaagct actgccgtac caattttcgg tgcaattgct ccaaacacag 480  
gtacacaaa agcacaaggc gattataaag atactct 517

<210> 2854



<211> 506  
<212> DNA  
<213> *Acinetobacter baumannii*

<400> 2854  
tttaaattgga gggaagatga tattcaatcg tggttcagca ttataattt cttatttttt 60  
aatttcttta gtaaattgagg gtgaaatcgg agctaaatta actagtcaaa ttgaattatt 120  
gccttcttgt tctgttaata ataattgtgt agaaaataat gcaacaaatt taaattttgg 180  
aactatagat ttgtgtgaag ctaccacagc ttttaaaggg gttttagaag ctagttagt 240  
taataatggt aattcagggt ttcagatcga gtgtgctggt atttcaactg taaaaataat 300  
atttgaggca ggaaataatg atagtaatat tccagcttca ttttcacaaa attattatca 360  
tgctttaagt aatggtagag attttattgc ttataacttg ctctatgggt taaataaaca 420  
agtcattaaa gcaaatgaag cttttattct taatgatatg aataataaaa agaataatga 480  
tatttttggt caagcaaccc atgatg 506

<210> 2855  
<211> 542  
<212> DNA  
<213> *Acinetobacter baumannii*

<400> 2855  
gcttccttac gttcctctgc aattcctgtc tctgaccctg cgtccgggtc acgcattacc 60  
gagatttttt actccttgca ggggtgaagca aatgcctctg gcctaccgac tgtatttatt 120  
cgtctcacag gttgcccttt acgggtgtagt tattgcgaca ccacctattc ttttgaaggt 180  
ggcgaacgct tatcacttga gcacattatt gaaacggctg aaaaatatca aacgccttat 240  
atttgtgtga ctggcggtga accacttgca caaccattt gcttaatttt attacaacgt 300  
ttatgtgacg ccggttttga tgtttcccta gaaaccagtg gcgctcttga tgtatcaaga 360  
gtggatccgc gtgtttcaaa agttctcgac ttaaagaccc caacttctgg tgaagaacat 420  
cgtaattctca tcagtaattc tgaccattta acaccgctg accaaatcaa atttgtgatt 480  
tgtaatcgtg aagactatga atgggtcaaaa caacaagttg aacaatatca actgcaaacc 540  
aa 542

<210> 2856  
<211> 540  
<212> DNA  
<213> *Acinetobacter baumannii*

&lt;400&gt; 2856

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aagctcgtgg taacttatac tttgacgaaa aattctggaa ctatacagct cttgctggct	120
taaacgtagt tcttggtggg cacttgaagc ctgctgctcc tgtagtagaa gttgctccag	180
ttgaaccaac tccagttgct ccacaaccac aagagttaac tgaagacctt aacatggaac	240
ttcgtgtggt ctttgatact aacaaatcaa acatcaaaga ccaatacaag ccagaaatcg	300
ctaaagttgc tgaaaaatta tctgaatacc ctaacgctac tgcacgtatc gaaggtcaca	360
cagataacac tgggtccacgt aagttgaacg aacgtttatac tttagctcgt gctaactctg	420
ttaaatcagc tcttgtaaac gaatacaacg ttgacgcttc tcgtttgtct actcaagggt	480
tcgcttggga tcaaccgatt gctgacaaca aaactaaaga aggtcgtgct atgaaccgtc	540

&lt;210&gt; 2857

&lt;211&gt; 584

&lt;212&gt; DNA

<213> *Acinetobacter baumannii*

&lt;400&gt; 2857

tcgtgtgtta ttgcttgatg aaccatttgg tgcactagat gctaagggtc gtaaagaatt	60
acgccgctgg ttacgtaact tgcattgatg gctgcatatc acttcaattt tcgtaacca	120
tgaccaagaa gaggcacttg aagtagccga ccaaattatt gtgatgaata aaggtaacgt	180
cgaacaaatt ggttctccgc gtgaagttta cgaaaaacct gcaacaccat ttgtatttga	240
tttcttgggt caagcaaata gttttgaagg tgaacatgca agcgggtatta tccgtattgg	300
caatgatcgt atcgaattac cgaccacagt tcaggctccg caaggaaaag taattgcttt	360
tgcccgtcct gatgagttac atattcatgc gcaaccacag gcaaatacaa ttgaagcaac	420
ttttgtacgt gaagtctgga ttgctggaaa agtagtggcg gaattacaag atcgtaatgg	480
acgtttaatt gagattgctc tgagcagtga agctgcaaaa caacatgcat ttaaaccaaa	540
tcaaactggt tgggtaagtg catctcaact tcacctatct gcag	584

&lt;210&gt; 2858

&lt;211&gt; 427

&lt;212&gt; DNA

<213> *Acinetobacter baumannii*

&lt;400&gt; 2858

atgcctatct ccaatcaaga tttgcgcaaa gctggactta aagttaccct tccacgaatt	60
aagatcttgg aattattaga aaattcaaaa caacatcatc ttagcgccga agatatttac	120

aagactttgt tagagcaagg ggaagatgtc ggacttgcca cagtttaccg tgtgttaaca 180  
 caatttgaag ctgcgggtat tattcaacgt catcattttg aaaataacca ttctgttttc 240  
 gaaatcatgc aagaagatca tcacgatcac ttagtatgcc aaaactgtaa caaagtcatt 300  
 gaatttacta atgatgttat cgagaaagaa cagcattctg tagcagaaca acatggggtt 360  
 accttaacgg gtcactcatt aaatctctat ggttactgta atgaacctga atgtcaggaa 420  
 gcattgc 427

<210> 2859  
 <211> 355  
 <212> DNA  
 <213> Acinetobacter baumannii

<400> 2859  
 agatggatgt tgatgctctt gaaaaaaciaa tggcgcatct tcaagctgaa ggtaaagttg 60  
 ttgcttgtgt cgttgcgaca gcggttaciaa ctgatgctgg tgcaattcat ccattgaaaa 120  
 aaatccgtga aattactaat aagtatgggt catggatgca tategatgct gcgtggggcg 180  
 gtgcactgat cttgtcaaat acctatcgtg caatgcttga tggattgag ctgtctgatt 240  
 cgatcactct cgacttccat aagcattatt tccaaagcat cagctgtggc gcgttcttgt 300  
 taaaagatga agcgaactat cgtttcatgc attatgaagc tgagtacttg aactc 355

<210> 2860  
 <211> 564  
 <212> DNA  
 <213> Acinetobacter baumannii

<400> 2860  
 gatgaatacc gccattacg ttgcaaaaat ggtttatatg tgcaacgtta tgcaccaatg 60  
 ctacgtattg ctgtgccgta tggcttaatg aactcaaaac aattacgtaa aattgctgaa 120  
 gtatcaactc aatatgaccg tggctatgca cacgtatcta cgcgtcaaaa tattcagcta 180  
 aactggcctg cacttgaaga tgtgccagaa attttagctg aactcgcaac tgtacaaatg 240  
 catgccattc aaaccagtgg taactgtatt cgtaacacga ctactgacca gtatgcaggt 300  
 gtagttgctg gtgaaattgc tgatccacgc ccaacatgtg aattgattcg tcagtggagt 360  
 acattccacc cggaatttgc attcttacca cgtaaattta aaattgccgt ttctgcactt 420  
 gaagaaaaag accgtgcagc aacagcattc catgatattg gtgtgtatat cgtgcgtaat 480  
 gaagcaggcg agatgggcta caaatcatg gtgggtgggt gtttaggccg tactccgatt 540

attggtagtg tcattcgtga gttt

564

<210> 2861  
<211> 310  
<212> DNA  
<213> *Acinetobacter baumannii*

<400> 2861  
tttaaagtgc ctacggctaa actcctacca gacttaccaa gttttacggg cggcttggtg 60  
ggttatttgg gctacgatgc tgtccgctac atcgagccac gtttaaagaa tgtacctgcg 120  
gctgatecga ttacgctgcc agatttatgg ttgatgctct caaagacagt cattgttttt 180  
gacaatctta aagatacgtc atttttaatt gtgcatgcgg atacagagca gagtaatgct 240  
tatgaagacg ctcaacaaaa attagatcaa ttagaacagt tggtggcgac tccagttagt 300  
ttgcaagcgc 310

<210> 2862  
<211> 530  
<212> DNA  
<213> *Acinetobacter baumannii*

<400> 2862  
ttaaacgtct tgccgatgac tttaataaag tggacgaagg tactttaacg attgcaacaa 60  
cacatactca agcacgttat gtattaccac caatcgtcaa tcaatttaag aaactatttc 120  
caaaagttca tttgatTTTT caacaagcaa gccctgtcga aattgcagaa atgcttttac 180  
aaggtgaagc tgatattggc atcgcgacag agtctttaac aactgaagaa aatttagcaa 240  
gcattccata ctatcaatgg cagcacagca ttattactcc tcaagatcac ccacttacac 300  
agctcgataa aattgatctt gatgctttat ctgaataccc actaattact tatcacggcg 360  
gttttacagg tcgttcaaag atcgataaag catttgaaga tgcacaaatt gatgccgata 420  
ttgtaatgtc tgctcttgat gccgatgtta tcaaaactta cgttgaactc ggcatgggtg 480  
tcggaattgt caatgatgtc gcttacgatg cagagcgtga ctatcgttta 530

<210> 2863  
<211> 534  
<212> DNA  
<213> *Acinetobacter baumannii*

<400> 2863  
cgacgcttta tctcttcgta ctgaagctcg tgctacttat aatgctgatg aagagttctg 60

gaactataca gctcttgctg gcttaaactg agttcttggt ggtcacttga agcctgctgc 120  
 tcctgtagta gaagttgctc cagttgaacc aactccagtt gctccacaac cacaagagtt 180  
 aactgaagac cttaacatgg aacttcgtgt gttctttgat actaacaat caaacatcaa 240  
 agaccaatac aagccagaaa ttgctaaagt tgctgaaaaa ttatctgaat accctaacgc 300  
 tactgcacgt atcgaaggtc acacagataa cactgggtcca cgtaagttga acgaacgttt 360  
 atcttttagct cgtgctaact ctgttaaact agctcttgta aacgaatata acgttgatgc 420  
 ttctcgtttg tctactcaag gtttcgcttg ggatcaaccg attgctgaca aaaaaactaa 480  
 agaaggctgt gctatgaacc gtcgtgtatt cgcgacaatc actggtagcc gtac 534

<210> 2864  
 <211> 336  
 <212> DNA  
 <213> Enterobacter cloacae

<400> 2864  
 ccgacacttg ctgacgtaca ggaacagtac ttgccaagcg ttttagcgca agagtccgtc 60  
 actccataca ttgcaatgct gaatggagag ccgattgggt atgcccagtc gtacgttgct 120  
 cttggaagcg gggacggatg gtgggaagaa gaaaccgatc caggagtacg cggaatagac 180  
 cagtcactgg cgaatgcac acaactgggc aaaggcttgg gaaccaagct ggttcgagct 240  
 ctggttgagt tgctgttcaa tgatcccgag gtcaccaaga tccaaacgga cccgtcgccg 300  
 agcaacttgc gagcgatccg atgctacgag aaagcg 336

<210> 2865  
 <211> 527  
 <212> DNA  
 <213> Acinetobacter baumannii

<400> 2865  
 gtgaaggcat gagtgttatt cgggccatga atggaaagca agcgattgaa ttgcacgcta 60  
 gccaacccat cgattttaatc ttacttgata ttaaattacc cgaattaaac ggctgggaag 120  
 tattaataaa aatacgccaa aaagctcaga ctcccgatgat catgttgacg gcgctagatc 180  
 aagatattga taaagttatg gcattacgca taggtgcaga tgactttgtg gtgaagcctt 240  
 ttaacccaaa tgaagtcac gctagagttc aggcagtctt aagaagaact cagtttgcaa 300  
 acaaagcaac taataagaat aaaatctata aaaatattga aattgatacc gacactcata 360  
 gcgtttatat acactctgag aataagaaaa tcttgcttaa tctgacgctg actgaatata 420

aaattatttc attcatgatt gaccaacctc ataaagtttt tacgcgcgga gaacttatga 480  
accactgcat gaatgatagc gatgcactag agcgaaccgt agatagc 527

<210> 2866  
<211> 588  
<212> DNA  
<213> *Acinetobacter baumannii*

<400> 2866  
tcagtgtatt aagcattcaa ccgcaatcgg taaatttttag tgaaaatctt cctgcacgtg 60  
tacatgcatt ccgtacggcg gaaatccgtc cgcaagtcgg aggtatcatt gaaaagggttc 120  
tatttaaaca aggtagtga gtttagagcag ggcaagcctt atataaaatt aattccgaga 180  
cttttgaggc cgatgtaa atagcaatagag cttctctcaa taaagctgaa gctgaggtgg 240  
caagactcaa agttcagtta gaacggtatg agcagttatt accaagtaat gcaattagta 300  
agcaagaagt aagtaatgct caagctcagt atcgctcaggc tctagccgat gtcgctcaaa 360  
tgaaagcatt gctggccaga caaaacttga atctgcaata tgcaacagtt cgagcgccta 420  
tttctgggcg tattgggcaa tcttttgtca ctgaagggtgc attggtcggt cagggcgata 480  
ccaatacgat ggcaaccatt caacagattg ataaagtcta tgttgatgta aagcaatcgg 540  
ttagtgagta tgaacgccta caggctgcgc taaaagcgg cgaattat 588

<210> 2867  
<211> 567  
<212> DNA  
<213> *Enterobacter cloacae*

<400> 2867  
atcgtgacca acagcaacga ttccgtcaca ctgcgcctca tgactgagca tgaccttgcg 60  
atgctctatg agtggctaaa tcgatctcat atcgctcagt ggtggggcgg agaagaagca 120  
cgcccgacac ttgctgacgt acaggaacag tacttgccaa gcgttttagc gcaagagtcc 180  
gtcactccat acattgcaat gctgaatgga gagccgattg ggtatgccca gtcgtacgtt 240  
gctcttgga gcggggacgg atggtgggaa gaagaaaccg atccaggagt acgcggaata 300  
gaccagtcac tggcgaatgc atcacaactg ggcaaaggct tgggaaccaa gctgggttcga 360  
gctctgggtg agttgctgtt caatgatccc gaggtcacca agatccaaac ggacccgtcg 420  
ccgagcaact tgcgagcgat ccgatgctac gagaaagcgg ggtttgagag gcaagggtacc 480  
gtaaccaccc cagatgggtcc agccgtgtac atgggtcaaa cacgccaggc attcgagcga 540



acacgcagtg atgcctaacc cttccat

567

<210> 2868

<211> 588

<212> DNA

<213> *Acinetobacter baumannii*

<400> 2868

tcagtgtatt aagcattcaa ccgcaatcgg taaatttttag tgaaaatctt cctgcacgtg 60

tacatgcatt ccgtacggcg gaaatccgtc cgcaagtcgg aggtatcatt gaaaagggttc 120

tatttaaaca aggtagtga gttagagcag ggcaagcctt atataaaatt aattccgaga 180

cttttgaggc cgatgtaaat agcaatagag cttctctcaa taaagctgaa gctgaggtgg 240

caagactcaa agttcagtta gaacggtatg agcagttatt accaagtaat gcaattagta 300

agcaagaagt aagtaatgct caagctcagt atcgtcaggc tctagccgat gtcgctcaaa 360

tgaaagcatt gctggccaga caaaacttga atctgcaata tgcaacagtt cgagcgccta 420

tttctgggcg tattgggcaa tcttttgtca ctgaagggtgc attgggtcggc cagggcgata 480

ccaatacgat ggcaaccatt caacagattg ataaagtcta tgttgatgta aagcaatcgg 540

ttagtgagta tgaacgccta caggctgcgc tacaaagcgg cgaattat 588

<210> 2869

<211> 588

<212> DNA

<213> *Acinetobacter baumannii*

<400> 2869

tcagtgtatt aagcattcaa ccgcaatcgg taaatttttag tgaaaatctt cctgcacgtg 60

tacatgcatt ccgtacggcg gaaatccgtc cgcaagtcgg aggtatcatt gaaaagggttc 120

tatttaaaca aggtagtga gttagagcag ggcaagcctt atataaaatt aattccgaga 180

cttttgaggc cgatgtaaat agcaatagag cttctctcaa taaagctgaa gctgaggtgg 240

caagactcaa agttcagtta gaacggtatg agcagttatt accaagtaat gcaattagta 300

agcaagaagt aagtaatgct caagctcagt atcgtcaggc tctagccgat gtcgctcaaa 360

tgaaagcatt gctggccaga caaaacttga atctgcaata tgcaacagtt cgagcgccta 420

tttctgggcg tattgggcaa tcttttgtca ctgaagggtgc attgggtcggc cagggcgata 480

ccaatacgat ggcaaccatt caacagattg ataaagtcta tgttgatgta aagcaatcgg 540

ttagtgagta tgaacgccta caggctgcgc tacaaagcgg cgaattat 588

<210> 2870

<211> 718

<212> DNA

<213> *Acinetobacter baumannii*

<400> 2870

tgccaattaa cttcttagcc gaagcagcaa aaaaaattag tcacggcgac ctctctgcta	60
gagcttacga taatagaatt cactccgccg aaatgtcgga gcttttatat aattttaatg	120
atatggctca aaagctagag gtttccgtca aaaatgcgca ggtttggaat gcagccatcg	180
cacatgagtt aagaacgcct ataacgatat tacaaggctg tttacaggga attattgatg	240
gcgtttttaa acctgatgaa gtcctattta aaagtctttt aaatcaaatt gaaggtttat	300
ctcacttagt cgaagactta cggactttta gcttagtaga gaaccagcaa ctccgggttaa	360
attatgaatt gtttgacttt aaggcggtag ttgaaaaagt tcttaaagca tttgaagatc	420
gtttggatca agctaagcta gtaccagaac ttgacctaac gtccactcct gtatattgcg	480
accgccgtcg tattgagcaa gttttaattg ctttaattga taatgcgatt cgctattcaa	540
atgcaggcaa acttaaaatc tcttcagaag tggttgcaga caactggata ttaaaaattg	600
aggatgaagg ccccggcatt gcaaccgagt tccaagacga tttatttaag cttttcttta	660
gattagaaga atcaaggaat aaagaatttg gcggcacagg tttagggtctt gctgttgt	718

<210> 2871

<211> 673

<212> DNA

<213> *Stenotrophomonas maltophilia*

<400> 2871

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accggtttcc gctcgtctg gcatacccgc cgcgaacgcc gccattgccg gcgccgccga	120
tttcgccgcg ctggagaaag ccagcgggtgg ccgcctgggc gtcaccgtgt tgaacaccgg	180
caacggtcgt cgcacggcg ggcatcggca ggatgagcgc ttcccgatgt gcagcacgtt	240
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caccctgtg cccatcgccg ggaaggatct gctgtcctac gctccggtgg cgcgccgcca	360
cgtgggcaag gatctgaccg tgcgcgacct gtgccggggc acgctgacca ccagcgacaa	420
cacggcggcc aacctgctgc tggaggtggt gggcgggccg tcggcgctga cggcattcct	480
gcgcgggcag ggcgacagca ttacccgcaa tgaccgcaac gagccggacg tgaatctgtt	540



cgcgaaagga gacccgcgcg ataccaccag cccggccgcg atggccacca gcctggcccg 600  
cttcgcggtg ggcaatggcc tgcagcctgc atcgcgccgg cagttcgccg attggctcat 660  
cgacaaccag acc 673

<210> 2872  
<211> 584  
<212> DNA  
<213> Enterobacter cloacae

<400> 2872  
cagccacact actttacctt cggtaaagcc gatgttgccg cgaacaaacc cgtcaccccg 60  
caaaccctgt ttgagctggg ctctataagt aaaaccttca ccggcggtact gggcggcgat 120  
gccattgccc ggggtgaaat agcgcctggg gatccggtag caaaatactg gcctgagctc 180  
acgggcaagc agtggcaggg cattcgcatg ctggatctgg caacctatac cgcaggcggt 240  
ctgccgttac aggtgccgga tgaggtcacg gataccgcct ctctgctgcg cttttatcaa 300  
aactggcagc cgcagtggaa gccgggcacc acgcgtcttt acgctaacgc cagcatcggt 360  
ctttttggtg cgctggcggt caaaccttcc ggcattgagct atgagcaggc catgacgacg 420  
cgggtcttta aaccctcaa gctggaccat acctggatta acgtcccga agcggaagag 480  
gcgcattacg cctggggata ccgtgagggt aaagcgggtc acgtttcgcc agggatgctg 540  
gacgcggaag cctatggcgt aaaaactaac gtgaaggata tggc 584

<210> 2873  
<211> 556  
<212> DNA  
<213> Enterobacter cloacae

<400> 2873  
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tttcgatcgt atagccggaa tgctggatcg cttcgctaac catcgtgcgc aggagaagct 180  
gaaaatcggc gtggtgggta catttgccac cggggtttta ttctcgcagc tggaggattt 240  
tcgccgtggc tatccgcaca tcgatcttca gctttccacc cataacaacc gcgttgatcc 300  
ggctgccgaa gggcttgact atacgatccg ctacggtggc ggggcgtggc acggcaccga 360  
ggctgaattc ctttgtcatg cgcgcctcgc gccgctgtgt acgcccgata tcgccgccag 420  
tctgcacagt ccggccgaca tcttcagggt tacgctgctg cgctcttacc gacgcgatga 480

atggaccgcg tggatgcagg cggccggcga gcatccccct tcgccaacgc accgcgtgat 540  
ggtatttgat tcgtcc 556

<210> 2874  
<211> 597  
<212> DNA  
<213> *Enterobacter cloacae*

<400> 2874  
gcatctcttg ctctgctctc gccacgccag tgtcagaaaa acagctggcg gaggtggtag 60  
cgaatacggg taccocgctg atgaaagccc agtctgttcc aggcattggcg gtggccgtta 120  
tttatcaggg aaaaccgcac tattacacgt ttggcaaggc cgatatcgcg gcgaataaac 180  
ccgttacgcc tcagaccctg ttcgagctgg gttctataag taaaaccttc accggcgtgt 240  
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ggccacagct gacgggcaag cagtggcagg gtattcgtat gctggatctc gccacctaca 360  
ccgctggcgg cctgccgcta caggtaccgg atgaggtcac ggataacgcc tccctgctgc 420  
gcttttatca aaactggcag ccgcagtgga agcctggcac aacgcgtctt tacgccaacg 480  
ccagcatcgg tctttttggt gcgctggcgg tcaaaccttc tggcatgccc tatgagcagg 540  
ccatgacgac gcgggtcctt aagccgctca agctggacca tacctggatt aacgtgc 597

<210> 2875  
<211> 596  
<212> DNA  
<213> *Stenotrophomonas maltophilia*

<400> 2875  
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gctcagccac gcgcacgccg accatgccgg gccggtggcg gagctgaagc gccgtacggg 120  
cgccaaagta gcggccaacg ccgaatcggc ggtgctgctg gcgcgcggtg gcagcgacga 180  
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ccggggcagc accgcgtgga cctggaccga taccgcgag ggcaagccgg tgcgcatcgc 360  
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cctgatcagag gattacaggc acagcttagc gacggtgcgg gcgctgccct gcgacgtgtt 480  
gctgacaccg catccgggtg ccagcaactg ggactacgct gccggcagca aggccagcgc 540

caaggcactg acctgcaagg cctacgcgga tgcggccgaa cagaagttcg acgcac 596

<210> 2876  
<211> 181  
<212> DNA  
<213> Enterobacter cloacae

<400> 2876  
aaaacggttc accataaaaa acatcacaaa gcggctaaac cagcggcaga acagaaagcg 60  
caggccgcga aaaagcacca taaaaaagcg gcaaaacctg cggtagagca gaaagcccag 120  
gcggctaaaa agcatcacaa aaaagcagca aaacacgaag cggctaaacc tgctgcacag 180  
c 181

<210> 2877  
<211> 310  
<212> DNA  
<213> Enterobacter cloacae

<400> 2877  
ttgccgatta tcagatcgtg accgatctga atgccgaatg cgatcgggcg atactccggg 60  
ttgacgttgc gctggaaggc tcacgctacg ccgaatgcga ggtggcgttt accctgtggc 120  
gtaatggcga agcctgcgcg caaaccacgc agcagcccgg atcggccatc gtggacgaac 180  
gcggcagttg ggctgaacgg cttacggtgg cgatacccggt gaacgctccc gcgctgtgga 240  
gcgctgaaac accggaatgc tatcggctga caatgtcgct tcgggatgcg cagggtaacg 300  
tgctggagac 310

<210> 2878  
<211> 260  
<212> DNA  
<213> Enterobacter cloacae

<400> 2878  
ggctctacacc acggatcaca ccgacgttgc cgcctggggc gacgtgctga cccgttttat 60  
cattgccgat aacccactc tggcactgaa ggctgtcgat gccctgcgc attccgacgg 120  
tgctgatgca ggctcgggtg agaaagagtg gcgcgccatg accgatgtgc atcagttctt 180  
tagcttactg aagcgccata acctgagccg ccagcaggcg ttctcgtctgg tgagtgcga 240  
tctggcctgt aaagtggata 260

<210> 2879  
<211> 294

<212> DNA  
<213> Enterobacter cloacae

<400> 2879  
ttctcgacga acccacttca gcgctggatc tctaccacca gcagcatctg ctgcgcctgt 60  
tgaaatcgct gacccgtcag ggccatcttc acgcctgcgt ggtgctgcac gatctcaatc 120  
ttgccgcatt atggctcggac cggatcctgc tgttacacaa cggcaggatt gtttctcagg 180  
gcataccgga gacggttttg caggccgacg cgtggcaca ctggtacggg gcgcaggtgc 240  
acgttggcat gacatccggc gcacgccgca ccgcagggtt ttctcgcccc ttag 294

<210> 2880  
<211> 153  
<212> DNA  
<213> Enterobacter cloacae

<400> 2880  
cgtcggtttg tctttctgac ggccgaaggt gaggccctgc ttgagagcag taaaccgatt 60  
ggaaatgagg tggatgaggc gtttttaggg cgccttaacg gcgcggaacg agagcaattt 120  
tcagcgtca ttaaaaagat gatgcaggat taa 153

<210> 2881  
<211> 353  
<212> DNA  
<213> Enterobacter cloacae

<400> 2881  
gaccattac gaacaagaga tctctgacat tcacgtcgcc cttgaaaact ggtaggtgc 60  
aggcgaaggc gatcgggaca cctgctcgc cgtttccgt ccgattttc tgatggttcc 120  
accgagtggc aaccctttag atcatcacgc gcttgcccaa atttttatat tgcacagcgg 180  
gggaaccgga cccgggctca ggatcgacat tgatgcgttg acaacgcttc agacatggga 240  
caacggcgcg gtgctccatt accgggagac gcaaaccgga ccaggccagc ccgtcaacgt 300  
gcgctgggtca accgcagtgc ttaatcagga aggggataac atccacctgg cgt 353

<210> 2882  
<211> 517  
<212> DNA  
<213> Enterobacter cloacae

<400> 2882  
agtgggtgtg ctttcgtggg tcagcaatga cggccagctg cgtcagcttt cactctgggg 60  
aatgggaagt cttggtcagg cacagtgggc aacgctgctc gccgtgacct cgtgatggg 120

gcctgccgtt ctggcgatct ggcgttgtgc cagcgcatta aatttactgc aactgggtga 180  
agaggaagcg cattaccttg gcgtggacgt tgcctttgta cagcgaatat tactgttatg 240  
cagcgccctg ctggtecgctg cggctgtcgc cgtcagcggc gtgattggct ttgtcggact 300  
cgtgggtgccg cacctgatgc gcatgtggct gggcgccgat caccgggcaa cctccccgg 360  
cacggtactc gctggcgctt tactgctgct ggtggcggat acggtcgcgc gcaccctggt 420  
cgctccggca gaaatgccgg tcggcctgct caccagtatc cttggtgctc cctgggttctt 480  
atggctcatt ttctgctcgtg gagaacagca tggctga 517

<210> 2883  
<211> 627  
<212> DNA  
<213> Enterobacter cloacae

<400> 2883  
gcggagtctt ctctgggtgc gcgcgacagt accagccagt ggccgcaggc gacaaacgcg 60  
ctgcctgacg tggggatatct tcgccagctg aatgcggagg ggattttgtc cgtacgcccg 120  
acgctgggtgc tggcaagcga ccaggcgcag ccctctctgg cgctgaaaca ggttgaacag 180  
agccacgtcc ggggtggttac cgttccccggc acgcctgacc tgcgcgcgat tgacgaaaaa 240  
gtacgggtga tagctcaggc gacgcatcat gaggcgcaag gggaaaccct gcgcaactcg 300  
ctgcgtcagg cgctggcggc actgccctca acaccgtcaa caagcgggtg ctgtttatcc 360  
tcagccacgg cggaatgacc gcaatgggcg gccgggcaac agaccggcgc ggatgcggca 420  
atacgcgccg ccgggttgca gaacgccatg cagggttcta cccgctatca gccgctttcc 480  
aggaggggggt gatggccagc cagccggatc tgggtggtgat ttcgcaggac ggtcttaacg 540  
cgctgggcgg cgaagaaaat ctgtggaac tgcccggcct ggcgcaaacg ccagcgggac 600  
gaagcaagca ggtgctggct attgatg 627

<210> 2884  
<211> 731  
<212> DNA  
<213> Enterobacter cloacae

<400> 2884  
catcaggata aacggcatag atgccctgct gagcgaacgt gtacgccggt aacagcgaga 60  
ccagttcccc tgcatccagt gcgttttcgca ccagccactc cggcagcagc gccactccac 120  
atcccgcgag ggcaaaagcc atcagcgcct gggcgctgtc tgcatacagg cgcggcgctc 180

tcttgatctc aaaggaaacc ggctgctcat caacacctct cacctgccag cgcagcggcg 240  
aggttaaacg ctcatgaatg atccagtcgc cttccgccag ctgctccagc gagttaaccg 300  
gatggtttgc cagccagcct ggcgttgcca cgggcaggat ggtgaaggag gtcatcaacg 360  
cggcgtggta gcgcgaatct gcaagcgtgc cgagccggat agcgacatcg aagcgctcgg 420  
cgataagatc ggcatgcaaa gaggacgaga catgccgcac gcgaaggtec ggggtgcagct 480  
ggctaaattc agccagcaaa ggcaccacca cctgcgagcc atattcgggc gtggtggtga 540  
tccgcagttc tcccgtcagc ccggcgtggg tggcgcgaaac gtcatectgc aatcgctctg 600  
catcccgtaa cagcatcacg cttcgttgat gaaagagctt ccccgctcgc gtcagcgtca 660  
ggcgtcgggt ggttcgcagc aacagggtga cgcccagctc ctcttcaagc tgacgaatat 720  
gaaagctgac c 731

<210> 2885  
<211> 353  
<212> DNA  
<213> Enterobacter cloacae

<400> 2885  
agcagtaacc cgatgaccga tcgttccacc attcagcgcg atgcccagct tggctaccgc 60  
attgcgccag ccggaaacga ctggctgaac gccgatgcga aaatttactg gtccgaagcg 120  
cggatcaacg cccagaacat cgacgccagc ggcgagttcc gtaagcagac taccaaaggc 180  
ggcaaagtgg aaaaccgcac ccgcctgttc agcgactctt tcgcctcgca cctgctgacc 240  
tacggcgggg aatactatcg tcaggagcaa caccctggcg gcgcgaccac cggcttcccg 300  
gacgcgaaaa tcgacttcag ctccggctgg ttgcaggatg agatcactct gcg 353

<210> 2886  
<211> 461  
<212> DNA  
<213> Enterobacter cloacae

<400> 2886  
gccattgtca cctttgcttt ggcctgcgcg tggcttaaaa cagaaccgtc gccgataaac 60  
accaccagga cagtaaacct gtctttgctg acggatccgc tgttgcgctt atccatgctt 120  
atctatgtgt gcgtaccgga catttttata ggcgtgaacg taacgggcat gtattacctc 180  
cagagcgagg ccaatatgac acccgccgca acgggcatgc ttatgctgcc gtggtctgtg 240  
gcttcgtttg tggctatcac cgcgacagga cgctatttca accgtatcgg cccccggcgc 300



ctggtggtca tcggttgcct tttgcaggcg acgggcattc tgcttttagt taacgtcggc 360  
ccggcaatgc tgctacctgc cgttgcgttt gcgctgatgg gcgcgggggg aagcctttgc 420  
agcagtacgg ctcagagcag cgcgtttttg acgatgcgac c 461

<210> 2887  
<211> 401  
<212> DNA  
<213> *Enterococcus faecium*

<400> 2887  
ttggcaatgc gatgttaggt aatatcatcg ttgtcagcgg ctcatttttg atactactgg 60  
ctctcttgaa gcacttttgc tggggaccaa tcagcgatat tttgaaaaaa cgtgaagaca 120  
agatcgccaa tgatttagat tctgcagaac aatctcgcat caactcagcg aaaatggaac 180  
aagaacgcga acaacaattg ttagcctctc gttctgatgc agctgatatc atcaaaaatg 240  
cgaaagaaag tggagaatta agccgccaaa atattttgaa ggatgctcaa gaagaagcag 300  
ctcgtctaaa aagcaaagcc caagctgata tcaactgtaga acgtgattca gcgctgaact 360  
ctgtaaaaga cgacgttgca gaactctctc ttcaaatacg g 401

<210> 2888  
<211> 787  
<212> DNA  
<213> *Acinetobacter baumannii*

<400> 2888  
cggcatcgtc aacataacct cggacagttt ctccgatgga ggccgggtatc tggcgccaga 60  
cgcagccatt gcgcaggcgc gtaagctgat ggccgagggg gcagatgtga tcgacctcgg 120  
tccggcatcc agcaatcccc acgccgcgcc tgtttcgtcc gacacagaaa tcgcgcgtat 180  
cgcgccggtg ctggacgcgc tcaaggcaga tggcattccc gtctcgctcg acagttatca 240  
acccgcgacg caagcctatg ccttgctcgc tgggtgtggc tatctcaatg atattcgcgg 300  
ttttccagac gctgcgttct atccgcaatt ggcgaaatca tctgccaaac tcgtcgttat 360  
gcattcgggt caagacgggc aggcagatcg gcgcgaggca cccgctggcg acatcatgga 420  
tcacattgcy gcgttctttg acgcgcgcgc cgcggcgctg acgggtgccg gtatcaaacg 480  
caaccgcctt gtccttgatc ccggcatggg gttttttctg ggggctgctc ccgaaacctc 540  
gctctcgggt ctggcgcggt tcgatgaatt gcggctgcgc ttcgatttgc cgggtgcttct 600  
gtctgtttcg cgcaaatacct ttctgcgcgc gctcacaggc cgtgggtccgg gggatgtcgg 660

ggccgcgaca ctcgctgcag agcttgccgc cgccgcaggt ggagctgact tcatccgcac 720  
acacgagccg cgccccttgc gcgacgggct ggcggtattg gcggcgctga aagaaaccgc 780  
aagaatt 787

<210> 2889  
<211> 632  
<212> DNA  
<213> Stenotrophomonas maltophilia

<400> 2889  
tgcagaacga gaaggatgcg gtggactcgg tgttctccgt gcagggcttc agcttcgccg 60  
gcatggggcca gaacgcgggc atggcgttcg tcaagctgaa ggactggagc gagcgtgacg 120  
ccgacaatgg cgtgatgccg atcaccggac gtgcgatggc ggccctgggc cagatcaagg 180  
atgccttcat cttcgccctc ccgcccgcgg ccattccgga gctggggacc gcctcgggct 240  
acaccttctt cctgaaggac aacagcggcc agggccacga ggcactggtg gccgcgcgca 300  
accagctgct cggcctggcc gcaggcagca agaagctggc caacgtacgc ccgaacggcc 360  
aggaagacac gccgcagttc cgcacgcaca tcgacgcggc caaggcgacc tcgctgggac 420  
tgtcgatcga ccagatcaac ggcacgctgg cggccgcgtg gggcagctcg tacatcgatg 480  
acttcgtcga tcgtggccgc gtcaagcgcg tgttcgtgca ggccgaccag gcgttccgca 540  
tggtgccgga ggacttcgat ctctggtccg tgaagaacga caagggtgag atggtgccgt 600  
tcagcgcctt cgctaccaag cactgggact ac 632

<210> 2890  
<211> 526  
<212> DNA  
<213> Stenotrophomonas maltophilia

<400> 2890  
aggaacgtac gctggaatcg atcgcggcac tggaaaacca cttcctgcag aacgagaagg 60  
atgcagtgga ctcggtgttc tcggtgcagg gcttcagctt cgccggcatg ggccagaacg 120  
ccggcatggc gttcgtcaag ctgaaggact ggagcgagcg tgacgccaac aatggcgtga 180  
tgccgatcac cggacgcgcg atggcgggcc tgggcccagat caaggatgcc ttcatcttcg 240  
ccttcccgcc gccggccatc ccggaactgg gcaccgcctc gggctatacc ttcttcctga 300  
aggacaacag cggccagggc cacgaggcac tgggtggccgc gcgcaaccag ctgctcggcc 360  
tcgcccgcgg cagcaagaag ctggccaacg tgcgcccga cggccaggag gacacgccgc 420



agttccgcat cgacatcgac gcggccaagg cgacctcgct ggggctgtcg atcgaccaga 480  
tcaacggcac gctggccgcc gcgtggggca gctcgtagat cgacga 526

<210> 2891  
<211> 473  
<212> DNA  
<213> *Stenotrophomonas maltophilia*

<400> 2891  
caagaagcag aaccttcgca tcaatgtgct tgccgcgcgc gtgctgtcga tgaccgcggt 60  
gggtgccgct cacgcgcgtg gactgccgac ccgcgaaccg gtgcgccagg ccagtgtgc 120  
ccagccgggc accgaccgca tcatcgtaaa gtatcgtagc ggtagcgtg cagccggtga 180  
ccgttcggcc aagctgtcca ccgtgcagtc ggcgctgacc ccgcgccagg tggccggcgg 240  
taccgcgcgc gccagtagc tgggcccgc ggtggtacgc cggctgggcg tgggcgcgga 300  
tgtgatccgc ctgcagggcc gcctggcacc ggccgaactg cagcgcgtgc tgaaggaact 360  
gaaggccgac cctgcgggtg agtacgccga ggccgacgtg aagctgcgcc gcagcgaact 420  
gcgcgccggt gacgtgcagc ctgcgctggc gccgaatgat ccgtactacc agc 473

<210> 2892  
<211> 403  
<212> DNA  
<213> *Stenotrophomonas maltophilia*

<400> 2892  
cagcatcctg atggaagacg gcagcacctt cgagcacaag ggcacgctgg agttctctga 60  
agtgagcgtc gatccagcca ccggcagctt cggcctgcgc gtgaagggtg acaaccgga 120  
cggcctgctg atgccgggca cctacgtgcg cgcggtgatc ggcggcggcg tgcgcagcga 180  
tgccgtgctg gtaccgatgc agggcatcgc ccgcgatccg aagggcgaca ccaccgcgat 240  
ggtggtcggc aaggacaaca aggtcgaagt gcgcccggtc aaggtcagcc gcacggtcgg 300  
cgacaagtgg ctggtcgagg acggtctgaa ggccggcgac aaggtcatcg tcgaaggcct 360  
gcagaagatc ggccccggca tgccggtcaa ggccaccgag aag 403

<210> 2893  
<211> 476  
<212> DNA  
<213> *Stenotrophomonas maltophilia*

<400> 2893

ctcatcgcca ctttcgacac caccagggc ccatcaagg tcgagctgtt cgccgacaag 60  
gcgccgctga ccgtggccaa cttcgtgaac ctggtcaagc acggtttcta tgacggcctg 120  
atcttccacc gcgtgatcgc cgacttcatg atccagggcg gctgcccgcg gggtcgtggc 180  
accggcggcc cgggctacaa gttcgaagac gagaagaatg gcgtgaagca cgaggtcggc 240  
tcgctgtcga tggccaacgc cggcccgaac accaacggca gccagttctt catcaccac 300  
atcaagaccg actggctgga cggccgccac accgtcttcg gcaaggctct ggaaggccag 360  
gccatcgctg attcgggtcaa gcaggcgac gtgatccatt cgatcacctt ggaaggcgac 420  
gtcgacgccg tgctggccgc ccaggccgag cgcgtcgcgg agtgaacaa gcacct 476

<210> 2894  
<211> 380  
<212> DNA  
<213> *Stenotrophomonas maltophilia*

<400> 2894  
tccagattgt cggagacatc gatgggatga ctgcgcagga tcgcgcgtc acccgccgc 60  
accgcgcgca ccagcagcca gatgaagcat gcggtcagcg cgatgtgcag cacatgctgc 120  
aggttgcca gcaccggatc ctgcagcggc gtggcctgca atgcggggat caacaacagc 180  
agcggccatg cgggtggccag cggcaaccgc agcacacgtc cgatgcgtgc gcgccggcga 240  
tcacgccctt tcagtcgatg gtagatccac aggatcaacc acgcgccgat gccgccact 300  
acaacggcca atcccaacgg ccatgcgtag gcctgtgcgc tttgccagtg caccgttgcc 360  
acctccactc gaacagcagg 380

<210> 2895  
<211> 281  
<212> DNA  
<213> *Stenotrophomonas maltophilia*

<400> 2895  
gacaccgctg ctgaagtacc gcggcatgcc gccactgatc gaacaggccg ccaccgagct 60  
gcgccgcgcc ggcccgctgg tggtagcggg ggagctgccc aaccagggcg cctgggccga 120  
ggccgaacgc acgctgctgc tgtacgaatt caaggccggg ctggagcgct acttcaacac 180  
ccaccgagcg ccaactgcga gcctggccga cctgatcgcc ttcaaccagg cgcacagcaa 240  
acaggaactg ggctgttcg gccaggaact gctggtggaa g 281

<210> 2896

<211> 286  
<212> DNA  
<213> *Stenotrophomonas maltophilia*

<400> 2896  
ctgaagtccc caccattcct ccggtcatca acgttgacgc cgagctggat cactggcgcc 60  
gccaacatgc cgaaggcgca ctgccgcaca actcgttcgg ctcgtagctg ccgtggatca 120  
agtttgccctg cgattcgctg atcaccacgc cgcgcgccag cgaggccgaa cgtgacgaga 180  
tgttccagac ccagtacgcc ctgcagatca tgccgcgact gagtgaagcc caggcccgcg 240  
aatctgtcga ccgttgctgg cagcacgtct accagagcag tccgggt 286

<210> 2897  
<211> 629  
<212> DNA  
<213> *Stenotrophomonas maltophilia*

<400> 2897  
cgtcacccgag aagaagagcg gccccgccct ggccagcaca cccggctcac ggggtggcagc 60  
ggatcatgcgc cgcaatgcgg cattggccga ggactatgcg cggcgccacg cgattccgcg 120  
ctggtagccc gacgccgacg cactcatcgc cgatcccgaa gtgaacgcgg tctacgtcgc 180  
aacgccgccc tcgacgcaca tgcagtacgc gctgcaggcg atcgccgcgg gcaagccggt 240  
ctacatcgaa aagccgatgg ccatggacca cgacgagtgc cagcgcatca tcgcggccag 300  
cgcccgcagc ggcgtgcccg ttttcgtggc ctactaccgc cgtgccctgc cccgcttcgc 360  
acaggtgaag cagctgctgg acaacggcgc gatcggaacg ccgcgcagcg tgcgcgccac 420  
cctgcatcgg ccgcattcgg cgaatgccgc atcgcccgcac ttctggcgga ccaatccgtc 480  
gatcgccggc ggcgggctgt tcgtcgatct gggctcgcat accctggacc tgctcgacca 540  
tctgctgggg ccgctgagcg acgtgcgtgg cctggccagt tcgctgaccg gcgcctacgc 600  
cgccgaggac agtgtctcga tgtgcttcc 629

<210> 2898  
<211> 345  
<212> DNA  
<213> *Stenotrophomonas maltophilia*

<400> 2898  
ggatgatgat cactccttca tcgagctgtc cgaagacgag cgcttgcgca agaccatgga 60  
gatcatgctg cgcagcgatg cctcggccga caccaggggtg ctgaccgaaa tgcagcaggc 120  
cggattccgc gatgcgctgg accggatgga gcgtgccctg cgccgcgccc gcgatctggg 180

ccagctgcgc gaaggcgccg accccaagat cgccgcgcgc atgctgcatg ccaccgtgct 240  
gggcgtgctg cacggggcga tggtcgaacc ggacctgatg gacctcaagc gcgacggcat 300  
gctcgcaactg gacatgaccc tggccgccta cgtgaaggac ggcgt 345

<210> 2899  
<211> 153  
<212> DNA  
<213> *Stenotrophomonas maltophilia*

<400> 2899  
accgcatggc tgacctacgg tgccgatgcg cagcggctga agatcgccga tgccacgctg 60  
aagacctacg aggattcgct gcgcctggcc gagggccgcc acgaacgtgg tggcagttcg 120  
gcgctggagc tgacctcagac ccgtaccctg gtc 153

<210> 2900  
<211> 212  
<212> DNA  
<213> *Stenotrophomonas maltophilia*

<400> 2900  
atgtcccagg taacgcaacc gcgtgtgcgt cgagtgtggg tggtccttgg tgcgtccgtt 60  
ctgtcatcgc tgctgctggc cagcctgcg ctggccgggtg acgtccactc agcgggcctg 120  
cagtcgcgcg cgacgcacca gcgcttcacg gtgaagtacc gcgacggtag tgcgccgggtg 180  
gccaacacca ccgcaactggc ctcttcgctg aa 212

<210> 2901  
<211> 150  
<212> DNA  
<213> *Stenotrophomonas maltophilia*

<400> 2901  
gtctcgacca aggtacgggt ctgggtcagc tccagcgccg aactgccgcc gcgttcgtgg 60  
cgggcctcgg ccaagcgag cgaatcctcg taggtcttca gcgtggcatc ggcatcttc 120  
agccgctgcg catcagcccc ataggtcagc 150

<210> 2902  
<211> 534  
<212> DNA  
<213> *Staphylococcus aureus*

<400> 2902  
gctggtaaag ctgaagaaac aacacaacca gttgcacaac cattagttaa aattccacag 60

ggcacaatta caggtgaaat tgtgaaaggt ccggaatatc caacgatgga aaataaaacg 120  
ttacaagggtg aaatcgttca aggtccagat ttcccaacaa tggaacaaag cgggtccatct 180  
ttaagcgaca attataactca accgacgaca ccgaacccta ttttagaagg tcttgaaggt 240  
agctcatcta aacttgaaat aaaaccacaa ggtactgaat caacgttgaa aggtattcaa 300  
ggagaatcaa gtgatattga agttaaacct caagcaactg aaacaacaga agcttctcaa 360  
tatgggtccga gaccgcaatt taacaaaaca cctaagtatg tgaaatatag agatgctggt 420  
acagggtattc gtgaatacaa cgatggaaca tttggatatg aagcgagacc aagattcaac 480  
aagccatcag aaacaaacgc atacaacgta acgacaaatc aagatggcac agta 534

<210> 2903  
<211> 505  
<212> DNA  
<213> Staphylococcus aureus

<400> 2903  
acaagagaag cagtagcaaa cgctgacgaa tcttggaaaa ctaaaactgt aaaaaaatac 60  
ggtgaatctg aaacaaaatc tcctgttgta aaagaagaga acaaagttga agaccctcaa 120  
tcacctaaat ttgataacca acaagagggtt aaaactacgg ctggtaaagc tgaagaaaca 180  
acacaaccag ttgcacaacc attagttaaa attccacagg gcacaattac aggtgaaatt 240  
gtgaaagggtc cggaatatcc aacgatggaa aataaaacgt tacaagggtga aatcgttcaa 300  
ggtccagatt tcccaacaat ggaacaaagc ggtccatctt taagcgacaa ttataactcaa 360  
ccgacgacac cgaaccctat tttagaagggt cttgaaggta gctcatctaa acttgaaata 420  
aaaccacaag gtactgaatc aacgttgaaa ggtattcaag gagaatcaag tgatattgaa 480  
gttaaaccctc aagcaactga aacaa 505

<210> 2904  
<211> 523  
<212> DNA  
<213> Streptococcus dysgalactiae

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agggatcaga ttgaagaatg tatccgctat acctatgaga tgatgtctag ccgagaatca 240

gaagacatgt ttctatttga gacccctcag acaagggttaa aattacctta caaagatatc 300  
ctttattttg ctactgctac gacacccac aagggtgtgtt tgtggactca gacggagaga 360  
ctggagtttt atggtaattt atctgagata caagctgtgg ctccaaagct tttcttatgc 420  
catagatctt acttgggttaa tctagataag gttgtgcgta ttgataaatc caaacagctc 480  
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tctaataat cctgcggatg tgtttgataa atcagtgacc tttaaagagt tgcaacgaaa 180  
aggtgtcagc aatgaagccc cgccactctt tgtgagtaac gtagcttatg gtcgaactgt 240  
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actcaggcag atggcaaacc tgtgccggta ggggctgtag tacatagagc tgatcaagag 360  
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caagccaagc agcagattgt ggtgggttaa cctgttactt gtcacgaggt atctttgcca 540  
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agaagcgatt tttaaagtca tttgccttgg tattgatata accgacgcca aaagttccag 180  
agtttttgggt cgcaaaataa gtattggccg ttaagctttt attgctattt actgaaatta 240  
aattgctata ttgcagccgt gaaaggctcg tatattcatc atcacgttgg ttatgggttaa 300  
tgctaaaacc aaaccgatta cggttatagc tgtatccaac tgtatattgg ttaccttcca 360  
agtctttcgt tcgatcttca gacatagatt tgtcggcttt actttgggta aaagaggcac 420  
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19

<210> 3042  
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20

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## A. CLASSIFICATION OF SUBJECT MATTER

INV. C12Q1/68

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## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
C12Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, EMBASE, MEDLINE, PAJ, WPI Data, Sequence Search

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>NAKAMURA M ET AL: "DEVELOPMENT OF THE DNA MICRO ARRAY FOR IDENTIFICATION OF INFECTIOUS DISEASE CAUSATIVE BACTERIA IN HUMAN"</p> <p>18 May 2003 (2003-05-18), ABSTRACTS OF THE GENERAL MEETING OF THE AMERICAN SOCIETY FOR MICROBIOLOGY, THE SOCIETY, WASHINGTON, DC, US, PAGE(S) ABSTRNOC219 , XP008047725</p> <p>ISSN: 1060-2011</p> <p>abstract</p> <p>-----</p> <p>-/--</p>	1-8, 10-25

☒ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

\* Special categories of cited documents :

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
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# INTERNATIONAL SEARCH REPORT

International application No

PCT/EP2006/010132

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>WANG R-F ET AL: "DNA microarray analysis of predominant human intestinal bacteria in fecal samples"</p> <p>August 2004 (2004-08), MOLECULAR AND CELLULAR PROBES, ACADEMIC PRESS, LONDON, GB, PAGE(S) 223-234 , XP004522575</p> <p>ISSN: 0890-8508</p> <p>abstract; tables 1,2</p> <p>-----</p>	1-8, 10-25
A	<p>LEHNER A ET AL: "Oligonucleotide microarray for identification of Enterococcus species"</p> <p>1 May 2005 (2005-05-01), FEMS MICROBIOLOGY LETTERS, AMSTERDAM, NL, PAGE(S) 133-142 , XP004876200</p> <p>ISSN: 0378-1097</p> <p>abstract</p> <p>-----</p>	1-8, 10-25
X	<p>EP 1 310 569 A (PRESIDENT OF GIFU UNIVERSITY) 14 May 2003 (2003-05-14)</p> <p>claim 14</p> <p>-----</p>	1-6, 10-13, 15,19-25
X	<p>WO 92/07096 A (MICROPROBE CORPORATION) 30 April 1992 (1992-04-30)</p> <p>page 12, paragraph 2</p> <p>page 27, paragraph 2</p> <p>example 6</p> <p>-----</p>	1-6,10, 12,13
X	<p>US 6 747 137 B1 (WEINSTOCK KEITH G [US] ET AL) 8 June 2004 (2004-06-08)</p> <p>column 2, lines 41-47</p> <p>column 16, lines 55-60</p> <p>column 19, lines 43-61</p> <p>column 42, lines 5-43</p> <p>table 2</p> <p>claim 7</p> <p>-----</p>	1-6,10, 12,13, 19-25
X	<p>EP 1 344 833 A (CHIP BIOTECHNOLOGY INC DR [TW]) 17 September 2003 (2003-09-17)</p> <p>-----</p>	1-6, 10-13, 15,16, 18-25
Y	<p>page 2, paragraphs 8,10</p> <p>page 3, paragraphs 13,18,19</p> <p>examples 1,2</p> <p>claim 8</p> <p>-----</p>	7,14,17
Y	<p>US 6 008 341 A1 (FOSTER TIMOTHY JAMES [IE] ET AL) 28 December 1999 (1999-12-28)</p> <p>figure 2</p> <p>-----</p>	7,14,17
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# INTERNATIONAL SEARCH REPORT

International application No

PCT/EP2006/010132

## C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>WO 02/094868 A (CHIRON SPA [IT]; MASIGNANI VEGA [IT]; MORA MARIROSA [IT]; SCARSELLI MA) 28 November 2002 (2002-11-28)</p> <p>page 2, lines 12,13</p> <p>page 2, lines 20-25</p> <p>sequences 1992,3983</p> <p>-----</p>	<p>1-8,</p> <p>10-15</p>

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/EP2006/010132

## Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☒ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:  
1-4 (totally), 5-8, 10-18 (partially), 19-25
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

### Remark on Protest

- ☒ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

Invention 1: claims 1-7 and 10-25 (partially)

An analytical device for direct identification and characterisation of microorganisms in a sample or clinical specimen, wherein the device comprises species specific gene probes of at least 100 nucleotides, and in particular a device for Staphylococcus species identification, in particular for S. aureus identification, wherein, in this case, the microarray comprises the gene probe listed as SEQ ID N° 3 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of Staphylococcus aureus in a sample or in a clinical specimen.

A kit for the detection of Staphylococcus aureus in a sample or clinical specimen.

---

Inventions 2-176: claims 1-25 (partially)

An analytical device for direct identification and characterisation of Staphylococcus aureus in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 1-2, 4-141, 790, 798, 801, 802, 808, 812, 814, 818, 825, 827, 837, 840, 843, 844, 846, 848-852, 854, 855, 859, 862, 875, 885, 896, 897, 904, 907, 908, 935, 942, 2902, 2903, and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of Staphylococcus aureus in a sample or in a clinical specimen.

A kit for the detection of Staphylococcus aureus in a sample or clinical specimen.

---

Inventions 177-220: claims 1-6, 8-25 (partially)

An analytical device for direct identification and characterisation of E. coli in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 142-173, 815, 833, 834, 836, 839, 857, 860, 886-887, 895, 901, 906, and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of E. coli in a sample or in a clinical specimen.

---

Inventions 221-258: claims 1-6, 8-25 (partially)

**FURTHER INFORMATION CONTINUED FROM PCT/SA/ 210**

An analytical device for direct identification and characterisation of *Staphylococcus epidermis* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 174-208, 786, 806, 826 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Staphylococcus epidermis* in a sample or in a clinical specimen.

A kit for the detection of *Staphylococcus epidermis* in a sample or clinical specimen.

---

Inventions 259-269: claims 1-6, 8-25 (partially)

An analytical device for direct identification and characterisation of *Staphylococcus haemolyticus* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 209-215, 796, 803, 820, 938 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Staphylococcus haemolyticus* in a sample or in a clinical specimen.

A kit for the detection of *Staphylococcus haemolyticus* in a sample or clinical specimen.

---

Inventions 270-276: claims 1-6, 8-25 (partially)

An analytical device for direct identification and characterisation of *Staphylococcus lugdunensis* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 216-221, 888 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Staphylococcus lugdunensis* in a sample or in a clinical specimen.

A kit for the detection of *Staphylococcus lugdunensis* in a sample or clinical specimen.

---

Inventions 277-284: claims 1-6, 8-25 (partially)



**FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210**

An analytical device for direct identification and characterisation of *Staphylococcus warneri* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 224-230, 831 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Staphylococcus warneri* in a sample or in a clinical specimen.

A kit for the detection of *Staphylococcus warneri* in a sample or clinical specimen.

---

Inventions 285-286: claims 1-6, 8-25 (partially)

An analytical device for direct identification and characterisation of *Staphylococcus saprophyticus* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 222-223 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Staphylococcus saprophyticus* in a sample or in a clinical specimen.

A kit for the detection of *Staphylococcus saprophyticus* in a sample or clinical specimen.

---

Inventions 287-375: claims 1-4, 6, 11-12, 14-25 (partially)

An analytical device for direct identification and characterisation of *Streptococcus pneumoniae* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N°523-605, 793, 805, 807, 813, 858, 929 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Streptococcus pneumoniae* in a sample or in a clinical specimen.

A kit for the detection of *Streptococcus pneumoniae* in a sample or clinical specimen.

---

Inventions 376-420: claims 1-4, 6, 11-12, 14-25 (partially)

**FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210**

An analytical device for direct identification and characterisation of *Streptococcus pyogenes* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 645-686, 800, 856, 928 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Streptococcus pyogenes* in a sample or in a clinical specimen.

A kit for the detection of *Streptococcus pyogenes* in a sample or clinical specimen.

---

Inventions 421-477: claims 1-4, 6, 11-12, 14-25 (partially)

An analytical device for direct identification and characterisation of *Klebsiella pneumoniae* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 399-448, 792, 794, 829, 899, 902, 903, 934 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Klebsiella pneumoniae* in a sample or in a clinical specimen.

A kit for the detection of *Klebsiella pneumoniae* in a sample or clinical specimen.

---

Inventions 478-504: claims 1-4, 6, 11-12, 14-25 (partially)

An analytical device for direct identification and characterisation of *Klebsiella oxytoca* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 449-469, 789, 799, 816, 822, 898, 943 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Klebsiella oxytoca* in a sample or in a clinical specimen.

A kit for the detection of *Klebsiella oxytoca* in a sample or clinical specimen.

---

Inventions 505-571: claims 1-4, 6, 11-12, 13-25 (partially)

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

An analytical device for direct identification and characterisation of *Pseudomonas aeruginosa* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 470-522, 785, 787, 791, 797, 804, 821, 832, 838, 841, 842, 884, 889, 905, 926 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Pseudomonas aeruginosa* in a sample or in a clinical specimen.

A kit for the detection of *Pseudomonas aeruginosa* in a sample or clinical specimen.

---

Inventions 572-611: claims 1-4, 6, 11-12, 14-25 (partially)

An analytical device for direct identification and characterisation of *Streptococcus agalactiae* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 606-644, 930 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Streptococcus agalactiae* in a sample or in a clinical specimen.

A kit for the detection of *Streptococcus agalactiae* in a sample or clinical specimen.

---

Invention 612: claims 1-4, 6, 11-12, 14-25 (partially)

An analytical device for direct identification and characterisation of *Streptococcus mutans* in a sample or clinical specimen, wherein the microarray comprises the gene probe listed as SEQ ID N° 894 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Streptococcus mutans* in a sample or in a clinical specimen.

A kit for the detection of *Streptococcus mutans* in a sample or clinical specimen.

---

Inventions 613-633: claims 1-4, 6, 8, 10-25 (partially)

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

An analytical device for direct identification and characterisation of *Enterococcus faecalis* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 308-398, 809, 811, 835, 864, 865, 880, 891, 909, 933, 936 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Enterococcus faecalis* in a sample or in a clinical specimen.

A kit for the detection of *Enterococcus faecalis* in a sample or clinical specimen.

---

Inventions 634-659: claims 1-4, 6, 8, 10-25 (partially)

An analytical device for direct identification and characterisation of *Enterococcus faecium* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 810, 817, 824, 847, 853, 861, 866-874, 876-879, 882, 900, 927, 931, 932, 939, 2887 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Enterococcus faecium* in a sample or in a clinical specimen.

A kit for the detection of *Enterococcus faecium* in a sample or clinical specimen.

---

Inventions 660-736: claims 1-4, 6, 11-25 (partially)

An analytical device for direct identification and characterisation of *Proteus mirabilis* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 706-775, 788, 830, 863, 883, 890, 892, 940 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Proteus mirabilis* in a sample or in a clinical specimen.

A kit for the detection of *Proteus mirabilis* in a sample or clinical specimen.

---

Inventions 737-749: claims 1-4, 6, 11-25 (partially)



## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

An analytical device for direct identification and characterisation of *Proteus vulgaris* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 776-784, 819, 823, 893, 941 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Proteus vulgaris* in a sample or in a clinical specimen.

A kit for the detection of *Proteus vulgaris* in a sample or clinical specimen.

---

Inventions 750-835: claims 1-6, 8-25 (partially)

An analytical device for direct identification and characterisation of *Candida albicans* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 231-307, 910-918 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Candida albicans* in a sample or in a clinical specimen.

A kit for the detection of *Candida albicans* in a sample or clinical specimen.

---

Inventions 836-864: claims 1-4, 6, 11-12, 14-25 (partially)

An analytical device for direct identification and characterisation of *Acinetobacter baumannii* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 2843-2863, 2865, 2866, 2868-2870, 2888, 2907, 2908 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Acinetobacter baumannii* in a sample or in a clinical specimen.

A kit for the detection of *Acinetobacter baumannii* in a sample or clinical specimen.

---

Inventions 865-883: claims 1-4, 11-12, 15-25 (partially)

An analytical device for direct identification and characterisation of *Streptococcus viridans* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 687-705 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Streptococcus viridans* in a sample or in a clinical specimen.

A kit for the detection of *Streptococcus viridans* in a sample or clinical specimen.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

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Invention 884: claims 1-4, 11-12, 15-25 (partially)

An analytical device for direct identification and characterisation of *Salmonella typhimurium* in a sample or clinical specimen, wherein the microarray comprises the gene probe listed as SEQ ID N° 795 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Salmonella typhimurium* in a sample or in a clinical specimen.

A kit for the detection of *Salmonella typhimurium* in a sample or clinical specimen.

---  
Invention 885: claims 1-4, 8, 10-13, 15-25 (partially)

An analytical device for direct identification and characterisation of *Enterococcus flavescens* in a sample or clinical specimen, wherein the microarray comprises the gene probe listed as SEQ ID N° 881 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Enterococcus flavescens* in a sample or in a clinical specimen.

A kit for the detection of *Enterococcus flavescens* in a sample or clinical specimen.

---  
Inventions 886-887: claims 1-4, 11-12, 15-25 (partially)

An analytical device for direct identification and characterisation of *Staphylococcus hominis* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 937, 2906 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Staphylococcus hominis* in a sample or in a clinical specimen.

A kit for the detection of *Staphylococcus hominis* in a sample.

---  
Inventions 888-889: claims 1-4, 11-12, 15-25 (partially)

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

An analytical device for direct identification and characterisation of *Stenotrophomonas maltophilia* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 2871, 2875, 2889-2901 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Stenotrophomonas maltophilia* in a sample or in a clinical specimen.

A kit for the detection of *Stenotrophomonas maltophilia* in a sample or clinical specimen.

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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

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(54) Title: DNA MICROARRAY FOR RAPID IDENTIFICATION OF CANDIDA ALBICANS IN BLOOD CULTURES

(57) Abstract: DNA microarray for rapid identification of candida albicans in blood cultures.

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INTERNATIONAL SEARCH REPORT

International application No  
PCT/EP2006/010132

A. CLASSIFICATION OF SUBJECT MATTER  
INV. C12Q1/68

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
C12Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, EMBASE, MEDLINE, PAJ, WPI Data, Sequence Search

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	NAKAMURA M ET AL: "DEVELOPMENT OF THE DNA MICRO ARRAY FOR IDENTIFICATION OF INFECTIOUS DISEASE CAUSACTIVE BACTERIA IN HUMAN" 18 May 2003 (2003-05-18), ABSTRACTS OF THE GENERAL MEETING OF THE AMERICAN SOCIETY FOR MICROBIOLOGY, THE SOCIETY, WASHINGTON, DC, US, PAGE(S) ABSTRNOC219 , XP008047725 ISSN: 1060-2011 abstract  ----- -/--	1-8, 10-25

☒ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

\* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
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# INTERNATIONAL SEARCH REPORT

International application No

PCT/EP2006/010132

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>WANG R-F ET AL: "DNA microarray analysis of predominant human intestinal bacteria in fecal samples"</p> <p>August 2004 (2004-08), MOLECULAR AND CELLULAR PROBES, ACADEMIC PRESS, LONDON, GB, PAGE(S) 223-234 , XP004522575</p> <p>ISSN: 0890-8508</p> <p>abstract; tables 1,2</p> <p>-----</p>	<p>1-8, 10-25</p>
A	<p>LEHNER A ET AL: "Oligonucleotide microarray for identification of Enterococcus species"</p> <p>1 May 2005 (2005-05-01), FEMS MICROBIOLOGY LETTERS, AMSTERDAM, NL, PAGE(S) 133-142 , XP004876200</p> <p>ISSN: 0378-1097</p> <p>abstract</p> <p>-----</p>	<p>1-8, 10-25</p>
X	<p>EP 1 310 569 A (PRESIDENT OF GIFU UNIVERSITY) 14 May 2003 (2003-05-14)</p> <p>claim 14</p> <p>-----</p>	<p>1-6, 10-13, 15,19-25</p>
X	<p>WO 92/07096 A (MICROPROBE CORPORATION) 30 April 1992 (1992-04-30)</p> <p>page 12, paragraph 2</p> <p>page 27, paragraph 2</p> <p>example 6</p> <p>-----</p>	<p>1-6,10, 12,13</p>
X	<p>US 6 747 137 B1 (WEINSTOCK KEITH G [US] ET AL) 8 June 2004 (2004-06-08)</p> <p>column 2, lines 41-47</p> <p>column 16, lines 55-60</p> <p>column 19, lines 43-61</p> <p>column 42, lines 5-43</p> <p>table 2</p> <p>claim 7</p> <p>-----</p>	<p>1-6,10, 12,13, 19-25</p>
X	<p>EP 1 344 833 A (CHIP BIOTECHNOLOGY INC DR [TW]) 17 September 2003 (2003-09-17)</p> <p>-----</p>	<p>1-6, 10-13, 15,16, 18-25</p>
Y	<p>page 2, paragraphs 8,10</p> <p>page 3, paragraphs 13,18,19</p> <p>examples 1,2</p> <p>claim 8</p> <p>-----</p>	<p>7,14,17</p>
Y	<p>US 6 008 341 A1 (FOSTER TIMOTHY JAMES [IE] ET AL) 28 December 1999 (1999-12-28)</p> <p>figure 2</p> <p>-----</p>	<p>7,14,17</p>
	<p>-----</p> <p>-/--</p>	

# INTERNATIONAL SEARCH REPORT

International application No

PCT/EP2006/010132

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>WO 02/094868 A (CHIRON SPA [IT]; MASIGNANI VEGA [IT]; MORA MARIROSA [IT]; SCARSELLI MA) 28 November 2002 (2002-11-28) page 2, lines 12,13 page 2, lines 20-25 sequences 1992,3983 -----</p>	<p>1-8, 10-15</p>



## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/EP2006/010132

### Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

### Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers allsearchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
3. ☒ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:  
**1-4 (totally), 5-8, 10-18 (partially), 19-25**
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

#### Remark on Protest

- ☒ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☐ No protest accompanied the payment of additional search fees.

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

Invention 1: claims 1-7 and 10-25 (partially)

An analytical device for direct identification and characterisation of microorganisms in a sample or clinical specimen, wherein the device comprises species specific gene probes of at least 100 nucleotides, and in particular a device for Staphylococcus species identification, in particular for S. aureus identification, wherein, in this case, the microarray comprises the gene probe listed as SEQ ID N° 3 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of Staphylococcus aureus in a sample or in a clinical specimen.

A kit for the detection of Staphylococcus aureus in a sample or clinical specimen.

---

Inventions 2-176: claims 1-25 (partially)

An analytical device for direct identification and characterisation of Staphylococcus aureus in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 1-2, 4-141, 790, 798, 801, 802, 808, 812, 814, 818, 825, 827, 837, 840, 843, 844, 846, 848-852, 854, 855, 859, 862, 875, 885, 896, 897, 904, 907, 908, 935, 942, 2902, 2903, and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of Staphylococcus aureus in a sample or in a clinical specimen.

A kit for the detection of Staphylococcus aureus in a sample or clinical specimen.

---

Inventions 177-220: claims 1-6, 8-25 (partially)

An analytical device for direct identification and characterisation of E. coli in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 142-173, 815, 833, 834, 836, 839, 857, 860, 886-887, 895, 901, 906, and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of E. coli in a sample or in a clinical specimen.

---

Inventions 221-258: claims 1-6, 8-25 (partially)

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

An analytical device for direct identification and characterisation of *Staphylococcus epidermis* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 174-208, 786, 806, 826 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Staphylococcus epidermis* in a sample or in a clinical specimen.

A kit for the detection of *Staphylococcus epidermis* in a sample or clinical specimen.

---

Inventions 259-269: claims 1-6, 8-25 (partially)

An analytical device for direct identification and characterisation of *Staphylococcus haemolyticus* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 209-215, 796, 803, 820, 938 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Staphylococcus haemolyticus* in a sample or in a clinical specimen.

A kit for the detection of *Staphylococcus haemolyticus* in a sample or clinical specimen.

---

Inventions 270-276: claims 1-6, 8-25 (partially)

An analytical device for direct identification and characterisation of *Staphylococcus lugdunensis* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 216-221, 888 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Staphylococcus lugdunensis* in a sample or in a clinical specimen.

A kit for the detection of *Staphylococcus lugdunensis* in a sample or clinical specimen.

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Inventions 277-284: claims 1-6, 8-25 (partially)

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

An analytical device for direct identification and characterisation of *Staphylococcus warneri* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 224-230, 831 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Staphylococcus warneri* in a sample or in a clinical specimen.

A kit for the detection of *Staphylococcus warneri* in a sample or clinical specimen.

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Inventions 285-286: claims 1-6, 8-25 (partially)

An analytical device for direct identification and characterisation of *Staphylococcus saprophyticus* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 222-223 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Staphylococcus saprophyticus* in a sample or in a clinical specimen.

A kit for the detection of *Staphylococcus saprophyticus* in a sample or clinical specimen.

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Inventions 287-375: claims 1-4, 6, 11-12, 14-25 (partially)

An analytical device for direct identification and characterisation of *Streptococcus pneumoniae* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 523-605, 793, 805, 807, 813, 858, 929 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Streptococcus pneumoniae* in a sample or in a clinical specimen.

A kit for the detection of *Streptococcus pneumoniae* in a sample or clinical specimen.

---

Inventions 376-420: claims 1-4, 6, 11-12, 14-25 (partially)



## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

An analytical device for direct identification and characterisation of *Streptococcus pyogenes* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 645-686, 800, 856, 928 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Streptococcus pyogenes* in a sample or in a clinical specimen.

A kit for the detection of *Streptococcus pyogenes* in a sample or clinical specimen.

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Inventions 421-477: claims 1-4, 6, 11-12, 14-25 (partially)

An analytical device for direct identification and characterisation of *Klebsiella pneumoniae* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 399-448, 792, 794, 829, 899, 902, 903, 934 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Klebsiella pneumoniae* in a sample or in a clinical specimen.

A kit for the detection of *Klebsiella pneumoniae* in a sample or clinical specimen.

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Inventions 478-504: claims 1-4, 6, 11-12, 14-25 (partially)

An analytical device for direct identification and characterisation of *Klebsiella oxytoca* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 449-469, 789, 799, 816, 822, 898, 943 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Klebsiella oxytoca* in a sample or in a clinical specimen.

A kit for the detection of *Klebsiella oxytoca* in a sample or clinical specimen.

---

Inventions 505-571: claims 1-4, 6, 11-12, 13-25 (partially)

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

An analytical device for direct identification and characterisation of *Pseudomonas aeruginosa* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 470-522, 785, 787, 791, 797, 804, 821, 832, 838, 841, 842, 884, 889, 905, 926 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Pseudomonas aeruginosa* in a sample or in a clinical specimen.

A kit for the detection of *Pseudomonas aeruginosa* in a sample or clinical specimen.

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Inventions 572-611: claims 1-4, 6, 11-12, 14-25 (partially)

An analytical device for direct identification and characterisation of *Streptococcus agalactiae* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 606-644, 930 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Streptococcus agalactiae* in a sample or in a clinical specimen.

A kit for the detection of *Streptococcus agalactiae* in a sample or clinical specimen.

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Invention 612: claims 1-4, 6, 11-12, 14-25 (partially)

An analytical device for direct identification and characterisation of *Streptococcus mutans* in a sample or clinical specimen, wherein the microarray comprises the gene probe listed as SEQ ID N° 894 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Streptococcus mutans* in a sample or in a clinical specimen.

A kit for the detection of *Streptococcus mutans* in a sample or clinical specimen.

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Inventions 613-633: claims 1-4, 6, 8, 10-25 (partially)

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

An analytical device for direct identification and characterisation of *Enterococcus faecalis* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 308-398, 809, 811, 835, 864, 865, 880, 891, 909, 933, 936 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Enterococcus faecalis* in a sample or in a clinical specimen.

A kit for the detection of *Enterococcus faecalis* in a sample or clinical specimen.

---

Inventions 634-659: claims 1-4, 6, 8, 10-25 (partially)

An analytical device for direct identification and characterisation of *Enterococcus faecium* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 810, 817, 824, 847, 853, 861, 866-874, 876-879, 882, 900, 927, 931, 932, 939, 2887 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Enterococcus faecium* in a sample or in a clinical specimen.

A kit for the detection of *Enterococcus faecium* in a sample or clinical specimen.

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Inventions 660-736: claims 1-4, 6, 11-25 (partially)

An analytical device for direct identification and characterisation of *Proteus mirabilis* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 706-775, 788, 830, 863, 883, 890, 892, 940 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Proteus mirabilis* in a sample or in a clinical specimen.

A kit for the detection of *Proteus mirabilis* in a sample or clinical specimen.

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Inventions 737-749: claims 1-4, 6, 11-25 (partially)



## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

An analytical device for direct identification and characterisation of *Proteus vulgaris* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 776-784, 819, 823, 893, 941 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Proteus vulgaris* in a sample or in a clinical specimen.

A kit for the detection of *Proteus vulgaris* in a sample or clinical specimen.

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Inventions 750-835: claims 1-6, 8-25 (partially)

An analytical device for direct identification and characterisation of *Candida albicans* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 231-307, 910-918 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Candida albicans* in a sample or in a clinical specimen.

A kit for the detection of *Candida albicans* in a sample or clinical specimen.

---

Inventions 836-864: claims 1-4, 6, 11-12, 14-25 (partially)

An analytical device for direct identification and characterisation of *Acinetobacter baumannii* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 2843-2863, 2865, 2866, 2868-2870, 2888, 2907, 2908 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Acinetobacter baumannii* in a sample or in a clinical specimen.

A kit for the detection of *Acinetobacter baumannii* in a sample or clinical specimen.

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Inventions 865-883: claims 1-4, 11-12, 15-25 (partially)

An analytical device for direct identification and characterisation of *Streptococcus viridans* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 687-705 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Streptococcus viridans* in a sample or in a clinical specimen.

A kit for the detection of *Streptococcus viridans* in a sample or clinical specimen.



FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

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Invention 884: claims 1-4, 11-12, 15-25 (partially)

An analytical device for direct identification and characterisation of *Salmonella typhimurium* in a sample or clinical specimen, wherein the microarray comprises the gene probe listed as SEQ ID N° 795 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Salmonella typhimurium* in a sample or in a clinical specimen.

A kit for the detection of *Salmonella typhimurium* in a sample or clinical specimen.

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Invention 885: claims 1-4, 8, 10-13, 15-25 (partially)

An analytical device for direct identification and characterisation of *Enterococcus flavescens* in a sample or clinical specimen, wherein the microarray comprises the gene probe listed as SEQ ID N° 881 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Enterococcus flavescens* in a sample or in a clinical specimen.

A kit for the detection of *Enterococcus flavescens* in a sample or clinical specimen.

---

Inventions 886-887: claims 1-4, 11-12, 15-25 (partially)

An analytical device for direct identification and characterisation of *Staphylococcus hominis* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 937, 2906 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Staphylococcus hominis* in a sample or in a clinical specimen.

A kit for the detection of *Staphylococcus hominis* in a sample.

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Inventions 888-889: claims 1-4, 11-12, 15-25 (partially)

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

An analytical device for direct identification and characterisation of Dictyostelium discoideum in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 945, 947 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of Dictyostelium discoideum in a sample or in a clinical specimen.

A kit for the detection of Dictyostelium discoideum in a sample or clinical specimen.

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Inventions 890-892: claims 1-4, 11-12, 15-25 (partially)

An analytical device for direct identification and characterisation of Streptococcus dysgalactiae in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 2842, 2904, 2905 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of Streptococcus dysgalactiae in a sample or in a clinical specimen.

A kit for the detection of Streptococcus dysgalactiae in a sample or clinical specimen.

---

Inventions 893-907: claims 1-4, 11-12, 15-25 (partially)

An analytical device for direct identification and characterisation of Enterobacter cloacae in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 2864, 2967, 2872-2874, 2876-2886 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of Enterobacter cloacae in a sample or in a clinical specimen.

A kit for the detection of Enterobacter cloacae in a sample or clinical specimen.

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Inventions 908-922: claims 1-4, 11-12, 15-25 (partially)

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

An analytical device for direct identification and characterisation of *Stenotrophomonas maltophilia* in a sample or clinical specimen, wherein the microarray comprises one of the gene probes listed as SEQ ID N° 2871, 2875, 2889-2901 and having a length of at least 100 nucleotides.

Use of the analytical device.

An in vitro method for identification and characterisation of *Stenotrophomonas maltophilia* in a sample or in a clinical specimen.

A kit for the detection of *Stenotrophomonas maltophilia* in a sample or clinical specimen.

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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

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